



Finance Essentials

About This Topic: Finance Essentials



Topic Mentor

Chuck Kremer

Chuck Kremer was an accountant, corporate controller, and business consultant. He helped thousands of non-financial executives overcome "fear of finance" and developed finance literacy using imaginative and enjoyable devices in *Novations' Financial Game for Decision Making* and *The Accounting Game™* seminars. He was the lead co-author of *Managing by the Numbers, A Commonsense Guide to Understanding and Using Your Company's Financials* and he developed The Financial Scoreboard™, an Excel software template. Mr. Kremer passed away in 2005. His work can be reviewed at <http://www.financialscoreboard.com>.

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What Would You Do?

What would you do?

Francois realized months ago that his company, ACME Hat Rack (ACME), needed to make significant changes to stay in business. Sales of hat racks from imitation deer antlers appeared solid on paper. But Francois could hear a demographic time-bomb ticking. The young adult market had left hats behind, and with them, hat racks.

Francois made numerous presentations to senior management on new product concepts, market studies, and extensive competitive analysis. At the end of each presentation, he cautioned that if the company didn't move soon, their competitors would beat them to it. Finally, senior management said: "We need to understand the bottom line. Give us some projections." Projections? He wasn't a fortuneteller; how could he confidently predict how much money they would make at some future date? What would you do?

Francois might begin by performing a cost/benefit analysis. A cost/benefit analysis identifies, over a given time frame, the costs and benefits of a new business opportunity and then compares those figures to see if the opportunity makes economic sense. Once Francois has performed the cost/benefit analysis, he can further evaluate the situation by using one or more of the following analytical tools: return on investment (ROI), payback period, breakeven analysis, net present value (NPV), and sensitivity analysis. The information, or projections, that Francois gathers will help senior management understand the bottom line and determine whether the company should target the young adult market with new products.

In this topic, you will gain a basic understanding of key financial concepts and learn to perform financial analysis tasks such as budgeting, justifying investments, and monitoring financial performance over time.

How can managers determine which projects to invest in, and which to avoid? How can they monitor the financial health of the company?

Topic Objectives

This topic contains information for managers without financial training on how to:

- Understand what the three basic financial statements and ratio analysis tell about a company's financial health
- Develop and track a budget
- Assess an investment opportunity

Seeing the big picture

Companies do many things: build cars, process data, provide services, and launch satellites. But the underlying purpose of all for-profit companies is to make money. As a for-profit manager, your job is to help the company make money—preferably, more money each year. Even if you work in the nonprofit or government sectors, where net income is neither the only nor the most important bottom line, it is still vital that you carefully monitor how much money comes in and where it gets spent.

You can help your company make money by reducing costs, increasing revenues, or both. The best managers don't just mind the budget—they look for the right combination of controlling costs and improving sales.

Understand financial statements

How's your company's financial health? Where does its revenue come from, and where does it spend its money? How much profit is it making? Companies provide answers to such questions in three documents, called **financial statements**:

- Income statement
- Balance sheet
- Cash flow statement

Publicly traded companies make these statements available to everyone—shareholders, industry analysts, and competitors as well. As a result, they are not as detailed as the company's internal financial statements.

Financial statements follow the same general format from company to company. Depending on the nature of the company's business, however, specific line items may vary. Still, the statements are usually similar enough to allow you to compare one business's performance against another's. The reason for this similarity is that accountants abide by **Generally Accepted Accounting Principles**, or GAAP.

Accounting methods

“ But it is pretty to see what money can do. ”
–Samuel Pepys

Talking about finances is hard without examples and data. Throughout this topic, we'll use ACME Hat Rack (ACME), a company that manufactures hat racks, to illustrate financial concepts.

To start, look at how ACME recognizes revenue and expenses. At ACME, the revenue for a customer order is booked as each hat rack ships—even if payment is made on account and the cash is not received immediately. Similarly, if ACME receives 2,000 brass hooks from a contracted supply company, those hooks are not all expensed at once. Rather, they are expensed on a per-unit basis: if it takes five brass hooks to make one hat rack, then the brass hooks are expensed five at a time as each hat rack is shipped out.

Like ACME, most companies use **accrual accounting**: Income and expenses are booked when they are incurred, regardless of when they are actually received or paid. This system relies on the matching principle, which helps companies understand the true causes and effects of business activities. Accordingly:

- Revenues are recognized during the period in which the sales activity occurred
- Expenses are recognized in the same period as their associated revenues

Occasionally, a very small company will begin its existence using **cash-basis accounting**, which counts transactions when cash actually changes hands. This practice is less conservative when it comes to expense recognition, but sometimes more conservative when it comes to revenue recognition. But as companies increase in size and complexity, it becomes more important to match revenues and expenses in the appropriate time periods, so they tend to switch over to accrual accounting.

Leadership Insight: Face your fear

A long time back I heard this beautiful song, which has become almost an anthem for me, called "Everyone Is Free," by Baz Luhrmann. And it has this beautiful line, which seems very apt for this moment ... it says, "Do one thing every day that scares you."

I wouldn't go to the extreme, suggesting that you do it every day, but certainly once or a couple of times in your life you should do things that you are mortally afraid of and scared of. And you should embrace your fears because they will transform you and they'll make you a better person.

Once such incident that happened to me in my life was: During my MBA — and even after my MBA — I was mortally afraid of finance. I was scared of it. And I don't know the reason for it, because I was generally very good with numbers and with math as such.

And maybe in hindsight, maybe the reason is that there were very smart kids around me who were much better at finance. Or maybe the teacher was a bit intimidating, or maybe the whole jargon of balance sheet, P&L, corporate finance, valuations, terminal values, betas, etc., got to me and I started avoiding the subject.

I went on to specialize in marketing, and in fact started my career as a marketing professional, which I was involved with for a good eight to nine years. I never could have imagined that I would shift my functional specializations. After eight years of working in marketing, I shifted to finance because somebody asked me to join this organization where I am currently employed, and I think it was a wonderful decision. If I were to go back, I would make the same decision again.

Because I realized, with my exposure to finance in this organization, the centrality of that to any business's existence and the importance that finance takes in charting out how the organization will go on — whether they will become successful or become failures. That has been big learning for me in terms of understanding finance and how embracing fears can help you become a much more holistic, a much more complete, manager.

Fear of finance is common but important to overcome, given its centrality to the organization.

Ash Tyagi

General Manager, Tata Industries Ltd.

Ash Tyagi is a General Manager and head of the Projects Team at Tata Industries Ltd. (TIL). TIL is one of the two holding companies of the Tata Group, a highly diversified conglomerate based in India with approximately 360,000 employees.

Tata Group's business presence can be segmented across seven sectors: communications and information technology, engineering, materials, services, energy, consumer products, and chemicals. In his role at Tata, Ash leads the activities related to starting new ventures, investing in new technologies, and ensuring that the companies with which TIL is associated are growing profitably.

He received his Bachelor of Science in physics, and his Master of Business Administration from Narsee Monjee Institute of Management Services, Mumbai. He also attended the General Management Program at Harvard Business School.

About the income statement

You might want to invest in a company for many reasons. Perhaps it's a leader in the industry. Or its CEO has a great record of turning companies around. Or its products are on the cutting edge of technology. But if the company is not turning a profit, or doesn't show strong potential to become profitable over the medium term, you probably wouldn't want to invest in it.

The **income statement** tells you if the company is making a profit—that is, whether it has positive or negative net income. (This is why the income statement is also called a profit-and-loss statement.) It shows a company's profitability throughout the year—typically, by presenting monthly, quarterly, and year-to-date summaries of the company's operations. In addition, the income statement tells you how much money the company spends to make that profit—that is, what its **profit margins** are.

Decoding the income statement

How does an income statement present this profitability picture? It starts with a company's revenues: how much money has come in the door from its operations. Various costs—from the costs of making and storing its goods, to depreciation of plant and equipment, to interest and taxes—are then deducted from the revenues. The bottom line—what's left over—is the **net income** or profit.

Click on the line items with a "+" in ACME's income statement to reveal definitions and further details.

ACME Hat Rack Income Statement

Beginning Year 2

Retail sales	\$2,200,000
Corporate sales	\$1,000,000
Total sales revenue	\$3,200,000
Cost of goods sold	\$(1,600,000)
Gross profit	\$1,600,000

Operating expenses	\$(800,000)
Depreciation expense	\$(42,500)
Earnings before interest and taxes	\$757,500
Interest expense	\$(110,000)
Earnings before income tax	\$647,500
Income tax	\$(300,000)
Net income	\$347,500

Leadership Insight: When the numbers don't add up

As a non-financial manager, one thing that I've learned over the years is that it's just as important to understand when the numbers don't add up — the common sense behind the numbers — as it is to know a few of the financial calculations that go into a spreadsheet. As someone who has been in the publishing industry for a while, I once had an author who came to me with her royalty statement that her agent had sent to her, and she asked me to look at it and try to decode it a bit for her. And it is somewhat complex. She was mostly concerned because she was not making any money — and her book was doing very well.

So I took a quick look at the statement, and I didn't really have to do any complex finances because it was really clear — the numbers weren't adding up. Her agent was getting money, it just wasn't finding its way back to her. In this case, it turns out she was being defrauded by this agent, as were some of the other clients. And this agent ended up being arrested for this.

But it was just a really reinforcing moment for me in thinking about the numbers — in that knowing, really, the nuances behind them and recognizing when they're just simply not adding up and there is a problem. And that's just as important as knowing, really, the ups and downs of the spreadsheet or the balance sheet. And I think for a manager, that can be just as important and just as helpful.

Even if you are not a finance expert, you should understand the basics.

Jacqueline Murphy Editorial Director, Harvard Business Review Group

Jacqueline Murphy is Editorial Director at Harvard Business Review Press. Established in 1984, Harvard Business Review Press is one of the preeminent business book publishers in the world. Previously, Jacque held senior editorial positions at Harvard Business Press, The Perseus Books Group, John Wiley & Sons, and Bloomberg Press.

About the balance sheet

Most people go to a doctor once a year to get a checkup—a snapshot of their physical well-being at a particular time. Similarly, companies prepare **balance sheets** as a means of summarizing their financial positions at a given point in time.

A balance sheet utilizes double-entry accounting—a system that ensures that each transaction balances. This system relies on the following basic equation:

$$\text{Assets} - \text{Liabilities} = \text{Owner's Equity}$$

Assets are the things a company invests in so that it can conduct business—examples include:

- financial instruments
- land
- buildings
- equipment
- commodities

In order to acquire necessary assets, a company often borrows money from others or makes promises to pay others. Monies owed to creditors are called **liabilities**. **Owner's equity**, also known as shareholders' equity, is what, if anything, is left over after total liabilities are deducted from total assets. Thus, a company that has \$3 million in assets and \$2 million in liabilities would have owner's equity of \$1,000,000.

Assets		Liabilities		Owner's equity
\$3,000,000	-	\$2,000,000	=	\$1,000,000

Activity: Is it an asset or a liability?

One of the keys of finance is distinguishing between assets and liabilities.

Consider the following items and determine which ones are assets and which are liabilities.

Accounts Payable

☐ Asset

Not the best choice. "Liability" is the correct choice. Liabilities are amounts the company owes. Accounts payable are amounts the company owes to others.

☐ Liability

Correct choice. Liabilities are amounts the company owes. Accounts payable are amounts the company owes to others.

Gross property, plant, and equipment

☐ Asset

Correct choice. Assets are resources and investments. Property, plant, and equipment are investments that the company has made.

☐ Liability

Not the best choice. "Asset" is the correct choice. Assets are resources and investments. Property, plant, and equipment are investments that the company has made.

Inventory

☐ Asset

Correct choice. Assets are resources and investments. Inventory represents an investment that the company has made.

☐ Liability

Not the best choice. "Asset" is the correct choice. Assets are resources and investments. Inventory represents an investment that the company has made.

Short-term debt

☐ Asset

Not the best choice. "Liability" is the correct choice. Liabilities are amounts the company owes. Debts are amounts the company owes to others.

☐ Liability

Correct choice. Liabilities are amounts the company owes. Debts are amounts the company owes to others.

Cash and marketable securities

☐ Asset

Correct choice. Assets are resources and investments. Cash and marketable securities are company resources and investments.

☐ Liability

Not the best choice. "Asset" is the correct choice. Assets are resources and investments. Cash and marketable securities are company resources and investments.

Decoding the balance sheet

Balance sheet data is most helpful when it's compared with information from a previous year.

In the ACME balance sheet below, a comparison of the figures for Year 2 against those for Year 1 shows that ACME is moving in a positive direction: although it has increased its total liabilities by \$74,000, it has increased assets by \$174,000, resulting in a net increase in owner's equity of \$100,000.

The balance sheet "balances" your company's assets and liabilities: the promises and agreements made with customers are balanced against the promises and agreements made with vendors and stockholders. It provides a description of how much, and where, the company has invested (its assets)—broken down into how much of this money comes from creditors (liabilities) and how much comes from stockholders (equity). Moreover, the balance sheet gives you an idea of how efficiently your company is utilizing its assets and how well it is managing its liabilities.

Click on the line items with a "+" in ACME's balance sheet to reveal definitions and further details.

ACME Balance Sheet

Ending Year 2

	Year 2	Year 1	Increase/(Decrease)
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Assets			
Cash and marketable securities	\$355,000	\$430,000	\$(75,000)
Accounts receivable	\$555,000	\$512,000	\$43,000
Inventory	\$835,000	\$755,000	\$80,000
Prepaid expenses	\$123,000	\$98,000	\$25,000
Total current assets	\$1,868,000	\$1,795,000	\$73,000
Gross property, plant, and equipment	\$2,100,000	\$1,900,000	\$200,000
Accumulated depreciation	\$(333,000)	\$(234,000)	\$(99,000)
Net property, plant, and equipment	\$1,767,000	\$1,666,000	\$101,000
Total assets	\$3,635,000	\$3,461,000	\$174,000

Liabilities and owner's equity			
Accounts payable	\$450,000	\$430,000	\$20,000
Accrued expenses	\$98,000	\$77,000	\$21,000
Income tax payable	\$17,000	\$9,000	\$8,000
Short-term debt	\$435,000	\$500,000	\$(65,000)
Total current liabilities	\$1,000,000	\$1,016,000	\$(16,000)
Long-term debt	\$750,000	\$660,000	\$90,000
Total liabilities	\$1,750,000	\$1,676,000	\$74,000
Contributed capital	\$900,000	\$850,000	\$50,000
Retained earnings	\$985,000	\$935,000	\$50,000
	\$1,885,000	\$1,785,000	\$100,000

Total owner's equity			
Total liabilities and owner's equity	\$3,635,000	\$3,461,000	\$174,000

Monitoring cash flow



A **cash flow statement** gives you a peek into a company's checking account. Like a bank statement, it tells how much cash was on hand at the beginning of the period, and how much was on hand at the end of the period. It then describes how the company spent its cash. As with a checkbook, uses of cash are recorded as negative figures, and sources of cash are recorded as positive figures.

If you're a manager in a large corporation, changes in the company's cash flow won't typically have an impact on your day-to-day functioning. Nevertheless, it's a good idea to stay up-to-date with your company's cash flow projections, because they may come into play when you prepare your budget for the upcoming year.

If cash is tight, you will probably be asked to be conservative in your spending. Alternatively, if the company is flush with cash, you may have opportunities to make new investments.

Decoding the cash flow statement

ACME Statement of Cash Flows

	Year 2

Net income	\$347,500
Accounts receivable Accounts receivable and inventory represent items the company has produced, but hasn't received payment for. Prepaid expenses represent items the company has paid for but has not consumed. These items are all subtracted from cash flow.	\$(75,600)
Inventory	\$(125,000)
Prepaid expenses	\$25,000
Accounts payable Accounts payable and accrued expenses represent items the company has already received or used, but hasn't yet paid for. So these items add to cash flow.	\$20,000
Accrued expenses	\$21,000
Income tax payable	\$8,000
Depreciation expense	\$89,000
Changes in operating assets and liabilities	\$(63,600)
Cash flow from operations	\$283,900
Sale of property, plant, and equipment (P,P & E)	\$267,000

Proceeds from the sale of plant, property, or equipment add to cash flow.	
<p>Capital expenditures</p> <p>Cash the company uses to make investments are deducted from cash flow. Investments in property, plant, or equipment (PP & E) are often shown as capital expenditures.</p>	\$(175,000)
<p>Cash flow from investing activities</p> <p>Acme has sold a building for \$267,000 and made capital expenditures of \$175,000, for a net addition to its cash flow of \$92,000.</p>	\$92,000
Short-term debt increase	\$(65,000)
Long-term borrowings	\$90,000
Capital stock	\$50,000
Cash dividends to stockholders	\$(187,000)
<p>Cash flow from financing activities</p> <p>Long-term debt</p> <p>Borrowing in the capital markets and issuing stock increase the available cash flow.</p> <p>Cash dividends to stockholders</p> <p>The dividends that ACME pays must be paid in cash, they represent a decrease in cash flow.</p>	\$2,000
Increase in cash during year	\$377,900

Key Idea: The relationships among the statements

Key Idea

The three financial statements offer three different perspectives on your company's financial performance. That is, they tell three different but related stories about how well your company is doing financially.

The **income statement** shows the bottom line: it indicates how much profit or loss a company generates over a period of time—a month, a quarter, or a year. The income statement tells you whether your company is making a profit.

The **balance sheet** shows a company's financial position at a specific point in time. That is, it gives a snapshot of the company's financial situation—its assets, equity, and liabilities—on a given day. The balance sheet tells you how efficiently a company is utilizing its assets and how well it is managing its liabilities in pursuit of profits.

The **cash flow statement** tells where the company's money comes from, and where it goes—in other words, the flow of cash in, through, and out of the company.

Each of the three financial statements you have seen can tell you something useful about your company's finances. Together, they can paint a picture of your company's overall financial health.

Ratio analysis



By themselves, financial statements tell you quite a bit: how much profit the company made, where it spent its money, how large its debts are. But how do you *interpret* all the numbers these statements provide?

For example, is the company's profit large or small? Is the level of debt healthy or not?

Ratio analysis provides a means of digging deeper into the information contained in the three financial statements. A financial ratio is two key numbers from a company's financial statements expressed in relation to each other. The ratios that follow are relevant across a wide spectrum of industries, but are most meaningful when compared against the same measures for other companies in the same industry.

The following pages will give you an overview of all the different ratios. You may find it helpful to look over them briefly now, and then refer to these pages as needed.

Profitability ratios

These measures evaluate a company's level of profitability by expressing sales and profits as a percentage of various other items.

- **Return on assets (ROA):** ROA provides a quantitative description of how well a company has invested in its assets. To calculate ROA, divide net income by assets.
- **Return on equity (ROE):** ROE shows the return on the portion of the company's financing that is provided by owners. To calculate ROE, divide net income by owner's equity.
- **Return on sales (ROS):** Also known as profit margin, ROS is a way to measure how sales translate into profit. For example, if a company earns \$10 for every \$100 in sales, the ROS is 10/100 or 10%. To calculate ROS, divide net income by the total sales revenue.
- **Gross margin:** A ratio that measures the percentage of **gross profit** relative to sales revenue. Gross profit is profit or income after deducting the cost of goods sold. A decline in gross margin may signal that a company won't be able to meet its expense obligations. To calculate gross margin, first calculate gross profit by subtracting cost of goods sold from sales. Then calculate gross margin by dividing gross profit by sales.
- **Earnings before interest and taxes (EBIT) margin:** Many analysts use this indicator, also known as **operating margin**, to see how profitable a company's operating activities are. To calculate the EBIT margin, divide EBIT by net sales.

Activity: Calculating profitability ratios

Profitability ratios help you evaluate a company's financial health. But each ratio requires a different calculation. Choose the right equations for calculating key profitability ratios.

Profitability ratios help you evaluate a company's financial health. But each ratio requires a different calculation. Choose the right equations for calculating key profitability ratios.

Return on assets (ROA) is a profitability ratio that helps you evaluate how well a company has invested in its assets. How would you calculate ROA?

- ☐ Divide net income by total assets

Correct choice. To calculate ROA, you divide net income (from the company's income statement) by total assets (from the company's balance sheet).

- ☐ Divide total assets by sales revenue

Not the best choice. Total assets/sales is not a profitability ratio.

- ☐ Divide net income by marketable securities

Not the best choice. Net income divided by marketable securities is not a profitability ratio.

Return on sales (ROS) is a profitability ratio that helps you measure the percentage of profit earned for every \$1.00 in sales. For example, if a company earns \$.05 for every \$1.00 in sales, the ROS is $.05/1.00$, or 5%. How would you calculate ROS?

- ☐ Divide total debt by shareholders' equity

Not the best choice. Total debt divided by shareholders' equity is not a profitability ratio.

- ☐ Divide net income by total sales revenue

Correct choice. To calculate ROS, you divide net income (from the company's income statement) by total sales revenue (also from the income statement).

- ☐ Divide earnings before interest and taxes by the interest expense

Not the best choice. Earnings before interest and taxes divided by interest expense is not a profitability ratio.

EBIT (earnings before interest and taxes) margin measures how profitable a company's operating activities are. This profitability ratio is also known as operating margin. How would you calculate EBIT margin?

- ☐ Divide net income by owners' equity

Not the best choice. Though net income divided by owners' equity is a profitability ratio, it is not EBIT margin.

- ☐ Divide total sales by total assets

Not the best choice. Total sales divided by total assets is not a profitability ratio.

- ☐ Divide EBIT by sales revenue

Correct choice. To calculate EBIT margin, you divide EBIT (from the company's income statement) by sales revenue (also from the income statement).

Operating ratios

By linking various income statement and balance sheet figures, these measures provide an assessment of a company's operating efficiency.

- **Asset turnover:** This shows how efficiently a company uses its assets. To calculate asset turnover, divide sales by assets. The higher the number, the better.
- **Days receivables:** It's best to collect on receivables promptly. This measure tells you in concrete terms how long it actually takes a company to collect what it's owed. A company that takes 45 days to collect its receivables will need significantly more working capital than one that takes four days to collect. To calculate days receivables, divide net accounts receivable for the given time period by net sales, then multiply that quotient by 365.

- **Days payables:** This measure tells you how many days it takes a company to pay its suppliers. The fewer the days it takes, the less likely the company is to default on its obligations. To calculate days payables, divide accounts payable by the cost of goods sold for the period in question, and then multiply that quotient by 365.
- **Days inventory:** This is a measure of how long it takes a company to sell the average amount of inventory on hand during a given period of time. The longer it takes to sell the inventory, the greater the likelihood that it will not be sold at full value—and the greater the sum of cash that gets tied up. To calculate days inventory, divide the average amount of inventory on hand for the period by the cost of goods sold for the same period, then multiply that quotient by 365.
- **Current ratio:** This is a prime measure of how solvent a company is. It's so popular with lenders that it's sometimes called the **banker's ratio**. Generally speaking, the higher the ratio, the better financial condition a company is in. A company that has \$3.2 million in current assets and \$1.2 million in current liabilities would have a current ratio of 2.7 to 1. That company would be generally healthier than one with a current ratio of 2.2 to 1. To calculate the current ratio, divide total current assets by total current liabilities.
- **Quick ratio:** This ratio isn't faster to compute than any other—it simply measures the ratio of a company's assets that can be quickly liquidated and used to pay debts. Thus, it ignores inventory, which can be hard to liquidate (and if you do have to liquidate inventory quickly, you typically get less for it than you would otherwise). This ratio is sometimes called the **acid test ratio** because it measures a company's ability to deal instantly with its liabilities. To calculate the quick ratio, divide cash, receivables, and marketable securities by current liabilities.

Activity: Calculating operating ratios

Operating ratios help you evaluate how efficiently a company operates. But each ratio requires a different calculation. Practice your recall of some key operating ratios.

Operating ratios help you evaluate how efficiently a company operates. But each ratio requires a different calculation. Practice your recall of some key operating ratios.

Asset Turnover

Consider:

X divided by Y equals Asset Turnover

Asset turnover shows how efficiently a company is using its assets. In the formula for calculating this operating ratio, which of the following is the **numerator**?

☐ Net income

Not the best choice. Net income is not the numerator for the equation you would use to calculate asset turnover.

☐ Current assets

Not the best choice. Current assets is not the numerator for the equation you would use to calculate asset turnover.

- ☐ Total assets

Not the best choice. Total assets is not the numerator for the equation you would use to calculate asset turnover.

- ☐ Sales revenue

Correct choice. Sales revenue is the numerator for the equation you would use to calculate asset turnover.

- ☐ EBIT

Not the best choice. EBIT is not the numerator for the equation you would use to calculate asset turnover.

Consider:

X divided by Y equals Asset Turnover

In the formula for calculating asset turnover, which of the following is the **denominator**?

- ☐ EBIT

Not the best choice. EBIT is not the denominator for the equation you would use to calculate asset turnover.

- ☐ Current liabilities

Not the best choice. Current liabilities is not the denominator for the equation you would use to calculate asset turnover.

- ☐ Total assets

Correct choice. Total assets is the denominator for the equation you would use to calculate asset turnover.

- ☐ Net income

Not the best choice. Net income is not the denominator for the equation you would use to calculate asset turnover.

- ☐ Owner's equity

Not the best choice. Owners' equity is not the denominator for the equation you would use to calculate asset turnover.

Current Ratio

Consider:

X divided by Y equals Current Ratio

The current ratio suggests how solvent a company is. The higher the ratio, the more solvent the company. In the formula for calculating this operating ratio, which of the following is the **numerator**?

☐ Net income

Not the best choice. Net income is not the numerator for the equation you would use to calculate current ratio.

☐ Current assets

Correct choice. Current assets is the numerator for the equation you would use to calculate current ratio.

☐ Total assets

Not the best choice. Total assets is not the numerator for the equation you would use to calculate current ratio.

☐ Sales revenue

Not the best choice. Sales revenue is not the numerator for the equation you would use to calculate current ratio.

☐ EBIT

Not the best choice. EBIT is not the numerator for the equation you would use to calculate current ratio.

Consider:

X divided by Y equals Current Ratio

In the formula for calculating current ratio, which of the following is the **denominator**?

☐ EBIT

Not the best choice. EBIT is not the denominator for the equation you would use to calculate current ratio.

☐ Current liabilities

Correct choice. Current liabilities is the denominator for the equation you would use to calculate current ratio.

☐ Total assets

Not the best choice. Total assets is not the denominator for the equation you would use to calculate current ratio.

☐ Net income

Not the best choice. Net income is not the denominator for the equation you would use to calculate current ratio.

☐ Owner's equity

Not the best choice. Owners' equity is not the denominator for the equation you would use to calculate current ratio.

Leverage ratios

Leverage has to do with a company's debt structure: the greater the component of long-term debt in the overall debt structure, the greater the **financial leverage**. The following measures help you determine whether your company's level of debt is appropriate and assess its ability to pay the interest on its debts.

- **Interest coverage:** This measures a company's margin of safety: how many times over the company can make its interest payments. To calculate interest coverage, divide earnings before interest and taxes by the interest expense.
- **Debt to equity:** This measure provides a description of how well the company is making use of borrowed money to enhance the return on owner's equity. To calculate the debt-to-equity ratio, divide total debt (long-term debt plus short-term debt plus current maturities) by total shareholders' equity.

Activity: Calculating interest coverage

A financially healthy company can pay the interest on its debts. How do you measure this capability?

A financially healthy company can pay the interest on its debts. How do you measure this capability?

Interest coverage is a leverage ratio that helps you measure a company's margin of safety: how many times the company can make its interest payments. How would you calculate interest coverage?

- ☐ Divide net income by interest expense

Not the best choice. Net income divided by interest expense does not measure interest coverage.

- ☐ Divide interest expense by net income

Not the best choice. Interest expense divided by net income does not measure interest coverage.

- ☐ Divide EBIT by interest expense

Correct choice. To calculate interest coverage, you divide earnings before interest and taxes, or EBIT (from the company's income statement) by interest expense (also from the income statement).

Valuation

Wall Street investors and stock analysts scrutinize a company's financial statements and stock performance carefully in order to arrive at what they believe to be a realistic estimate of that company's value. Since a share of stock denotes ownership of a part of the company, analysts are interested in knowing whether the market price of that share is a good deal relative to the underlying value of the piece of the company the share represents.

Wall Street uses various means of valuation, that is, of assessing a company's financial performance in relation to its stock price.

- **Earnings per share (EPS):** EPS equals net income divided by the number of shares outstanding. This is one of the most commonly watched indicators of a company's financial performance. If it falls, it will likely take the stock's price down with it.
- **Price-to-earnings ratio (PE):** The PE ratio is the current price of a share of stock divided by the previous 12 months' earnings per share. It is a common measure of how cheap or expensive a stock is, relative to earnings.
- **Price-to-book ratio:** This ratio is the current market price of a share of stock divided by a stock's book value per share. (To calculate the book value, subtract the preferred stock total from total equities, and then divide the result by the number of shares outstanding.)
- **Growth indicators:** Growth measures can tell a great deal about financial health. A company's growth allows it to provide increasing returns to its shareholders, and to provide opportunities for new and existing employees. The number of years over which you should measure growth will depend on the business cycle of the industry the company is in. A one-year growth figure for an oil company—an industry that typically has long business cycles—probably doesn't tell you very much. But a strong one-year growth figure for an Internet company would be significant. Common measures of growth include sales growth, profitability growth, and growth in earnings per share.

Other ways to assess financial health

Beyond profitability, operating, leverage ratios, and valuation - other ways of evaluating the financial health of a company include Economic Value Added (EVA), and assessing growth and productivity. Like the ratios described above, all of these measures are most meaningful when compared against the same measures for other companies in that particular industry.

- **Economic value added (EVA):** This concept was introduced as a way to induce employees to think like shareholders and owners. It is the profit left over after the company has met the Cost of Capital—the expectations of those who provided the capital. (Another way to describe Cost of Capital is that it is the weighted cost average to the company of acquiring debt and equity financing.)
- **Productivity measures:** Sales-per-employee and net-income-per-employee measures link revenue and profit generation information to work force data. In so doing, they help you assess employees' effectiveness in producing sales and income.

Leadership Insight: Create efficiencies

Being a finance manager you always have to look at numbers. Numbers can give you information on many things, things that sometimes you don't realize are going on, but by looking at the

numbers you can fix a problem or a situation. I was checking out [the activities of] all the workers — they fill out the paperwork every day to track what they have done — and I noticed that we had a huge amount of hours that were spent cleaning; people cleaning the area where they work, because some factories have furniture, others have metal, so things have to be kept quite clean.

When we looked up the numbers, we realized that, but before — just looking at the workplace — nobody had noticed it. We decided that instead of having the people clean the workplace, we would hire two people to do that all day long. That way we saved a great amount of money by taking off their task of cleaning their work area.

And that was a good contribution to the company's finances and economy, which nobody had really noticed because everybody was really busy just doing what they wanted to do and not taking a look at the numbers to see what was going on.

To gain insight into solving your organization's issues, stop and look at the numbers.

Cristina Camarero

Finance Manager, Tema Grupo Empresarial

Cristina Camarero is the Finance Manager for the Metal, Furniture, AC, and Insulation divisions at Tema Grupo Empresarial in Spain. Operating nation-wide, Tema Groupa Empresarial cooperates in the construction of retail stores, including Spain's largest department store, El Corte Inglés, and other multinational retail stores with local presence in Spain and Portugal.

She previously worked in the tourism industry, introducing the first river cruises in Russia and France into the Spanish market. Cristina earned her Bachelor of Arts from George Washington University in Washington, D.C. and attended the Program for Leadership Development at Harvard Business School.

Key Idea: A blueprint for success

Key Idea

A budget is a blueprint for achieving specific goals. Your unit's budget is part of your company's overall strategy. To create a useful budget, you need to understand your company's strategy. How can you get to know your company's overall strategy?

Watch the overall economic picture. Companies follow different strategies during booms and recessions. Listen to colleagues' views on the economy and make your own observations. Are you deluged by résumés or is good help hard to find? Are prices rising or falling?

Stay on top of industry trends. Even when the economy is booming, some sectors are going bust; your budget will need to reflect that reality.

Steep yourself in company values. Every company has a culture. The best companies make every decision with those values in mind. Suppose your budget calls for a cut in the company's

contribution to health care plans. If that's against the company's culture, your proposal will be rejected even before it has a chance to be read.

Conduct *SWOT* analyses. Every company has strengths, weaknesses, opportunities, and threats. Keep them in mind as you build your budget.

A budget isn't just a set of numbers; it's one part in your company's blueprint for success. Knowing the big picture is key to creating a useful budget.

Top-down budgeting

If your company does top-down budgeting, senior management sets very specific objectives for such things as net income, profit margins, and expenses. For instance, each department may be told to hold expense increases to no more than 6% above last year's levels. It's left up to you to allocate your budget within the parameters to ensure that the objectives are achieved.

For example, suppose ACME Hat Rack decides that it wants to increase overall profitability by 10%. That could mean, among other possibilities, launching a new product line to generate new sales, or cutting overhead by upgrading technology, which would reduce the need for part-time workers.

In addition, if your company does top-down budgeting, make sure to look at the overall plans for sales and marketing, as well as cost and expense plans, as you prepare your budget. The company's sales plan determines, to a large extent, how much money will be available for the budget. The marketing budget will give you an idea of what the company will be emphasizing in the coming year. Further, many companies that emphasize quality insist on reducing expenses every year, no matter how slightly, as a way to improve overall company quality. Thus, most major expenses—a new computer system, a new plant, a new field office—are carefully budgeted years in advance.

Bottom-up budgeting

In companies that do bottom-up budgeting, managers aren't given specific targets. Instead, they begin by putting together budgets that they feel will best meet the needs and goals of their respective departments. These budgets are then "rolled up" to create an overall company budget, which is then adjusted, with requests for changes being sent back down to the individual departments.

This process can go through multiple iterations. Often it means working closely with other departments that may be competing against yours for limited resources. It's best to be as cooperative as you can with other departments during this process, but that doesn't mean you shouldn't lobby aggressively for your own unit's needs.

Setting goals



As a manager, you are expected to put together a budget for your department each year. Your compensation may depend, to a large extent, on your ability to stick to that budget. So it's in your best interest to create a realistic budget when you start out.

Begin by setting goals. You may want to improve your division's performance over the previous year, increase net income for the company, or decrease costs—maybe even all three. How do you think your department can accomplish everything it has set out to do? That's where the budget comes into play. After all, a budget is a plan with numbers.

Start with a list of three to five goals that you'd like to achieve—and put a completion date on them, too.

For example:

- Increase gross sales by 5% by June 30th.
- Decrease administrative costs by 3% by end of fiscal year.
- Reduce inventories by 2% by the end of the quarter.

Defining scope

“Which of you, intending to build a tower, sitteth not down first, and counteth the cost . . . ?”
—Luke 14:28

Be sure you know the scope of the budget you're supposed to produce. Scope implies two things: the part of the company the budget is supposed to cover, and the level of detail it should include.

- The smaller the unit that you're focusing on, the more detail you need. If you're creating a budget for a 12-person sales office, you typically won't need to worry about such capital expenditures as major upgrades to the building or the computer equipment. But you should include estimates of what kinds of office supplies you'll need, and how much they will cost.
- As you move up the organizational ladder to include more people and larger departments in your budgeting, your scope broadens. You can assume that the head of the 12-person office has thought about paper clips and travel expenses. You're looking to convey the broad-brush outline, what the minute details of all the units' budgets add up to.

Other issues to consider:

- **Term.** Is the budget just for this year, or the next five years? Most budgets are for the upcoming year, with quarterly or monthly reviews.

- **Overview.** Does your budget need to be accompanied by an overview of your strategic plan—for example, your plans for increasing sales or market share? If so, you need to be prepared to defend it.

Build your budget on goals



Take a hard look at your assumptions for the coming year. After all, a budget, at its simplest, takes current data, adds assumptions, and creates projections. Suppose you think sales will rise 10% in the coming year. If that's true, you may have to add two more people to your unit. But when you get before your budget committee, be prepared to defend your assumption that sales will rise 10%.

Don't start off by looking at specific revenue or cost line items, because revenues and costs are integrally linked. Instead, begin by asking yourself what events you want to see happen over the time frame in question, and what revenues and expenses are associated with each.

For example, do you expect to sell more products? How? If you plan to increase sales of your company's current products, there will be additional sales and marketing costs—maybe even new hires—associated with this strategy. Or, if you intend to expand the company's product line, you will need to budget for a new product development initiative.

Budget assumptions: an example

The easiest way to get started with a budget is to take a look at your department's most recent budget.

Thus, if you're the head of ACME Hat Rack's Coat Rack Division, looking at the last year's budget may give you some ideas about how to increase revenues, cut costs—or both. Explore the Standing Hat Rack Division's budget by clicking on the "+" symbols to discover opportunities for budgeting differently this year.

Standing Hat Rack Division, ACME Hat Rack

Last Year's Budget	Budgeted	Actual	Variance

Sales by model			
Iron-Deco Deluxe	\$237,000	\$208,560	\$(28,440)
Lightweight Mini Deluxe	\$320,225	\$329,832	\$9,607
Standard Upright	\$437,525	\$476,902	\$39,377
Electro-Revolving	\$125,000	\$81,250	\$(43,750)
Hall/Wall Model	\$80,000	\$70,400	\$(9,600)
Total sales	\$1,199,750	\$1,166,940	\$(32,806)
<i>Cost of goods sold</i>			
Direct labor	\$75,925	\$82,000	\$(6,075)
Factory overhead	\$5,694	\$6,150	\$(456)
Direct materials	\$195,000	\$191,100	\$3,900

Total cost of goods sold	\$276,619	\$279,250	\$(2,631)
<i>Sales, general, and administrative costs</i>			
Sales salaries	\$300,000	\$310,000	\$(10,000)
Advertising expenses	\$135,000	\$140,000	\$(5,000)
Miscellaneous selling expenses	\$3,400	\$2,500	\$900
Office expenses	\$88,000	\$90,000	\$(2,000)
Total SG&A	\$526,400	\$542,500	\$(16,100)
Operating income	\$396,731	\$345,194	\$(51,537)

Quantifying your assumptions

Each of your assumptions and scenarios must be translated into monetary figures. If your entire staff of 12 needs sales training, you need to find out how much it will cost to train each person, and multiply that number by 12 to calculate the total cost. Some costs or revenues are easier to project than others—which is why it's always a good idea not to prepare your budget alone. Co-workers and direct reports will have valuable suggestions. Trade publications can often provide industry averages for a range of costs.

Once you've translated the assumptions into numbers, you need to incorporate those numbers into budget line items. Because your budget needs to be compared to and combined with others, your

company will probably provide you with a standard set of line items to use. In some cases, your quantified assumptions will comprise the entire line item.

For example, you may have listed and quantified all the product development projects you'll be pursuing next year. In other cases, your assumptions will be incremental: if you plan to boost sales by raising prices, you'll start with last year's sales figures and then increase them by the appropriate amount.

Defending your assumptions



As you put your budget into its required format, be sure to document your assumptions. It's easy to lose track during the translation, and you will want to be able to explain them—and change them—easily.

When you have compiled your budget, take a step back. Does the budget meet the goals that have been set for your unit?

For example, if your goal was to increase gross sales by 5%, does it in fact do so? It's easy to overlook overall goals as you get into the line-by-line detail.

Furthermore, is your budget defensible? You may be perfectly happy with it, but not everyone else on the budget committee may be. Once again, you have to push your assumptions. Could you do as well with one extra staff member as with two? If not, be sure you can prove it.

Role-playing may help you here. Put yourself in the position of a division manager with limited resources and many departmental requests for funding. How can you make your case for two additional staff members so that the division manager grants your request ahead of all the others?

Questions to ask yourself

Keep in mind that the answers to many other questions will influence your budgeting process:

- Will you keep prices the same, lower them, or raise them? A price increase could eliminate a gross sales shortfall—provided the increase did not dampen sales.
- Do you plan to enter new markets, target new customers, or use new sales strategies? How much additional revenue do you expect these efforts to bring in? How much will these initiatives cost?
- Will your salary expenses change? For example, do you plan to cut down on temporary help and replace these resources with full-time employees? Or will you be able to reduce salary costs through automation? If so, how much will it cost to automate?

- Are your suppliers likely to raise or lower prices? Are you planning to switch to lower-cost suppliers? Will there be a drop-off in quality? If so, how much will it affect your sales?
- Will your product have to be enhanced to keep your current customers?
- Do you need to train your staff?
- Are there other special projects or initiatives you are planning to pursue?

A moment of truth



The safest way to double your money is to fold it over once and put it in your pocket.

–Frank McKinney Hubbard

ACME Hat Rack is considering two investment options: buying a new piece of machinery and creating a new product line. The new machine is a plastic extruder costing \$100,000. ACME hopes it will save time and money over the long term, in addition to being safer than the current machinery. The second option, launching a line of coat racks, will require a \$250,000 investment in plant, equipment, and design.

How does ACME decide whether these investment options make economic sense?

They could perform a **cost/benefit analysis** using one of the following analytical tools:

- Return on investment (ROI)
- Payback period
- Breakeven analysis
- Net present value (NPV) or internal rate of return
- Sensitivity analysis

Finance-driven decisions

Cost/benefit analysis evaluates whether, over a given time frame, the benefits of the new investment, or the new business opportunity, outweigh the associated costs.

Before beginning any cost/benefit analysis, it's important to understand the cost of the status quo. You want to weigh the relative merits of each investment against the negative consequences, if any, of not proceeding with the investment. Don't assume that the costs of doing nothing are always high: in many cases, even when significant benefits could be gained from a new investment, the cost of doing nothing is relatively low.

Steps of cost/benefit analysis

The cost/benefit analysis of a particular investment involves the following steps:

1. Identify the costs included in the new purchase/business opportunity.
2. Identify the benefits of additional revenues.
3. Identify the cost savings to be gained.
4. Map out the timeline for expected costs and anticipated revenues.
5. Evaluate the unquantifiable benefits and costs.

The first three steps are fairly straightforward. Begin by identifying all the costs associated with the venture—this year's up-front costs as well as ones you anticipate in subsequent years. Additional revenues could come from more customers or from increased purchases from existing customers. To understand the benefits of these revenues, make sure to factor in the new costs associated with them; ultimately, this means you'll be looking at profit. With cost savings, it's a little simpler, at least in the sense that they are incremental profit—they go straight to the bottom line. However, cost savings are sometimes a little more subtle, more difficult to recognize. They can arise from a variety of sources; for the ones listed below, it isn't hard to quantify the savings.

- **More efficient processing.** This could mean that fewer people are required to do the processing, or that the process requires fewer steps, or even that the time spent on each step decreases.
- **More accurate processing.** The time required to correct errors and the number of lost customers could both decrease.

Next, map out these two elements—the costs and the revenues or cost savings—over the relevant period of time. When do you expect the costs to be incurred? In what increments? When do you expect to receive the benefits (additional revenues or cost savings)? In what increments?

How has an investment paid off

ROI is equal to the net return divided by the cost of investment.

Returns from an investment (**ROI**) can take the form of cost savings, incremental profit, or appreciation in value. To calculate the "net return" from an investment, simply subtract the total cost of the investment from the total benefits of the return.

$$\text{Net Return} = \text{Total benefits} - \text{Total costs}$$

To calculate the ROI—the ratio of the net return to the cost of the investment—divide the net dollar amount of return by the total cost of investment.

$$\text{ROI} = \text{Net return} / \text{Cost of investment}$$

Essentially, ROI is a means of comparing returns on money a company spends internally with returns available elsewhere. Generally speaking, an investment's ROI should be reasonably high—more than the company could expect to get by investing in government bonds, for instance.

There is a drawback to this method, however: it does not provide as accurate an economic picture as more sophisticated tools such as net present value and internal rate of return, because it ignores the time value of money, nor is it an annual ROI.

Calculating ROI: an example

Suppose that the new \$100,000 plastic extruder ACME is considering would enable the company to save \$18,000 a year over the lifetime of the machine, which would be seven years. The total savings would thus be \$126,000, making for a net return of \$26,000. Applying the formula—\$26,000/\$100,000—the ROI for the investment is a very attractive 26%.

How long will it take for an investment to pay off?

Companies also want to know the payback period: how long it will take a particular investment to pay for itself. To determine the payback period, divide the total amount of the investment by the annual savings expected.

You already know that the plastic extruder is expected to save ACME \$18,000 a year. In this case, $\$100,000/\$18,000 = 5.56$. In other words, the extruder will pay for itself in 5.56 years. The graph below provides a year-by-year illustration.

Payback Period for ACME Investment

Year	Savings	Cumulative savings
1	\$18,000	\$18,000
2	\$18,000	\$36,000
3	\$18,000	\$54,000
4	\$18,000	\$72,000
5	\$18,000	\$90,000
6	\$18,000	\$108,000
7	\$18,000	\$126,000

Note that ACME will not truly begin to reap the benefits of the investment for more than five years. But what if the life-span estimates are wrong and the extruder wears out after five years? The investment now appears to be a bit riskier—certainly riskier than an investment with a similar ROI and a payback period of 3 years.

Using ROI and payback period

As analytical tools, ROI and payback period have several benefits:

- They're easy to convey to upper management.
- They remind everyone that wise expenditures pay off financially.
- They adopt a long-term perspective.

- They help you compare different options.

Key Idea: The time value of money

Key Idea

A principle that underlies both NPV and IRR: the time value of money. In effect, this principle states that a dollar you receive five years from now is worth less than a dollar you receive today. The reason: even assuming no inflation, the dollar you receive today can be invested somewhere, which means that you will have more than a dollar by the fifth year.

Evaluating a new business opportunity means analyzing the income you expect that opportunity to provide at some point in the future. But in order to perform that analysis, you have to devise a method for expressing future dollars in terms of current dollars. That's what net present value (NPV) and internal rate of return (IRR) calculations allow you to do.

These analytical tools are fairly complicated. Because most calculators and spreadsheet programs can make these calculations for you, they will only be described in broad terms.

In business, the value of money is largely determined by the investment opportunities that money represents. Money earned in the future is always less valuable than money earned today, because money earned today can be invested today.

Leadership Insight: Net present value

In this module, as you study income statements, cash flow statements, balance sheets, net present value analysis, internal rates of return, it is important to realize the broad, bigger objective that underlies decisions that managers make using these tools. Net present value analysis, for instance, suggests that managers accept projects whose rates of return are greater than the cost of capital that they are investing in it. When that happens, projects have a positive net present value. If the rate of return that they get from an investment is less than the cost of capital, the net present value is negative.

Net present value is important because there is a direct relationship between net present value and the valuation of a company. As managers accept positive net present values through the millions of decisions that they make, that, as the market understands those decisions, gets transformed into value addition in the valuation of the companies.

Accepting positive net present value projects results in increased market valuations. Accepting negative net present value projects, on the other hand, causes the market valuation of those companies to go down.

So there is a direct relationship between net present value projects and the valuation of your companies. Therefore, making decisions that have positive net present value is a very important part of a manager's function.

In order to make those decisions, of course, managers have to do many things. They have to understand their markets. They have to motivate their employees. They have to design great products. But never lose sight of the ultimate goal — to create and take projects that have positive net present value — because of the direct translation of those decisions into the valuations of your companies.

Managers' many decisions about net present value can directly impact the company's valuation.

Srikant Datar
Senior Associate Dean, Harvard Business School

Srikant Datar is the Arthur Lowes Dickinson Professor of Accounting at Harvard University. Srikant received the George Leland Bach Award for Excellence in the Classroom at Carnegie Mellon University and the Distinguished Teaching Award at Stanford University.

He is a coauthor of the leading cost accounting textbook "Cost Accounting: A Managerial Emphasis" and of "Rethinking the MBA: Business Education at a Crossroads." Srikant's research interests are in the cost management and management control areas, including activity-based management, quality, and productivity. His research findings have been published in several prestigious journals, including the Accounting Review, Journal of Accounting and Economics, and Journal of Accounting Research.

Srikant serves on the Board of Directors of Novartis AG, ICF International, KPIT Cummins Info Systems Ltd., Stryker Corporation, and Harvard Business Publishing. He is a graduate with distinction from the University of Bombay. He received gold medals upon graduation from the Indian Institute of Management, Ahmedabad, and the Institute of Cost and Works Accountants of India. A chartered accountant, he holds two master's degrees and a Doctor of Philosophy from Stanford University.

Discounting future income

Say that ACME expects its new product line to start generating \$60,000 in annual profit beginning one year from now and continuing for the succeeding five years. The questions for the company can thus be phrased as follows: Given this expected profit stream and the \$250,000 up-front cost required to produce it, is a new line of coat racks the most productive way to invest that initial \$250,000? Or would ACME be better off investing it in something else?

A net present value calculation begins answering this question by recognizing that the \$300,000 in profit that ACME expects to receive over five years is not worth \$300,000 in current dollars: because of the time value of money, it is worth less than that. In other words, that future sum of \$300,000 has to be *discounted* in order to be expressed accurately in today's dollars. *How much* it is discounted depends on the rate of return ACME could reasonably expect to receive had it chosen to put the initial \$250,000 investment into something other than the line of coat racks (but similar in risk) for the same period of time.

This rate of return is often called the discount rate. In the ACME example, assume a discount rate of 6%. The NPV function on your calculator or spreadsheet takes into consideration your initial investment, your yearly profit or loss, your discount rate, and the time period (in years) that you are analyzing.

The NPV calculation

An NPV calculation determines the net present value of a series of cash flows according to the following algebraic formula:

$$\text{NetPresentValue} = \text{CashFlow (CF)}_0 + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \frac{CF_n}{(1+i)^n}$$

where each CF is a future cash flow, n is the number of years over which the cash flow stream is expected to occur, and i is the desired rate of return, or the discount rate.

When you supply the values for each future cash flow, the discount rate, and the number of years, your spreadsheet or calculator will do the rest.

If the NPV of an investment is a positive number, and no other investments are under consideration, the investment should be pursued.

ACME hat racks investment options

Activity: You choose the discount rate

Explore the effect that discount rates have on the net present value over time and see how it determines the aggressiveness of your investment choices.

You'll need this information to answer the question:

The forecast cash flows from today's market data show 3-month T-bills at 5%, 1-year T-bills at 6.5%, 3-year corporate at 7.5%, and 5-year bonds at 6%.

ACME is considering a \$1,000,000 equipment purchase that will generate \$300,000 in revenues a year for five years for a total of \$1,500,000. Choose the discount rates for a five year plan to see net present value.

If you were actually choosing discount rates for your organization, you might refer to the financial markets to identify interest rates like the ones below that would help guide your decision. Notice that the rates are projected for specific time periods.

Which set of interest rates should you use to calculate the Net Present Value of your investment?

- ☐ Year 1 = 6.5%
Years 2, 3, & 4 = 7.5%

Year 5 = 6.0%

Correct choice. This is the most conservative application of current market data on interest rates.

☐ Years 1 & 2 = 6.5%

Year 3 = 7.5%

Years 4 & 5 = 6.0%

Not the best choice. The interest rates you have selected for years 2 and 4 may be too low given the current interest rate environment. As a result your NPV may be overstated.

☐ Year 1 = 5.0%

Years 2, 3, & 4 = 7.5%

Year 5 = 6.0%

Not the best choice. The 3-month rate is not the appropriate interest rate to use for a one-year time horizon.

Calculating an internal rate of return

The **internal rate of return (IRR)** is another means for managers to decide whether to commit to a particular investment opportunity. It is defined as the discount rate, the rate at which the NPV of an investment equals zero. Typically, when the IRR is greater than the opportunity cost (the expected return on a comparable investment) of the capital required, the investment under consideration should be undertaken.

The IRR calculation is based on the same algebraic formula as the NPV calculation. With the NPV calculation, you know the desired rate or return and are solving the equation for the net present value of the future cash flows. With IRR, by contrast, the net present value is set at zero and the equation is solved for the rate of return. Your spreadsheet program or calculator will perform IRR calculations for you, just as it will for NPV.

What's a reasonable rate of return for a business to expect on an investment comparable to the one under consideration? Typically, it's well above what they could get on a risk-free investment, such as a Treasury bond. In many instances, companies will set a **hurdle rate**, a minimal rate of return that all investments are required to achieve. In such instances, the IRR of the investment under consideration must exceed the hurdle rate in order for the company to go forward with it.

Returning to ACME's coat rack opportunity, the calculation yields an IRR for this investment of 6.4%, which is slightly above the discount rate of 6%. If ACME's hurdle rate were 6%, they'd go ahead with the new line of coat racks. But if the hurdle rate were 10%, the 6.4% IRR would mean that ACME should not make the investment.

Error sensitivity

As noted earlier, ACME would expect its new line of coat racks to begin generating \$60,000 in annual profit beginning a year from now. But what if some variable in the scenario changed—

how would it affect the overall evaluation of the investment opportunity?

Sensitivity analysis enables you to ask just this kind of question, and to see the ramifications of incremental changes in the assumptions that underlie a particular projection.

ACME Hat Rack's new product line

Sherman Peaboddy is the vice president of ACME's Standing Hat Rack division. He would exercise day-to-day oversight of the new product line, and he is the one projecting \$60,000 in annual profit for five years. Natasha Rubskaya, the company's CFO, is more phlegmatic about the investment, primarily because she believes that Peaboddy has drastically underestimated the marketing costs necessary to support the new line. She predicts an annual profit stream of \$45,000. Then there's Theodore Bullwinkle, ACME's senior vice president for new business development. Ever the optimist, he is convinced that the coat racks will practically sell themselves, producing an annual profit stream of \$75,000 a year.

ACME conducts a sensitivity analysis using the three different profit scenarios. The NPV for Peaboddy's is \$2,587. For Rubskaya's it's \$-57,022. And for Bullmoose's scenario, the NPV is \$62,196.

If Rubskaya is right, the coat racks won't be worth the investment. If either of the other two is right, however, the investment will be worthwhile—marginally so according to Peaboddy's profit projections, and very much so according to Bullmoose's. This is where judgment comes into play. If Natasha Rubskaya is the best estimator of the three, ACME's board of directors might prefer to take her estimate of the coat rack line's profit potential. Better still, the company should analyze its marketing costs in greater detail.

Whichever route they take, the sensitivity analysis will give the board of directors a more nuanced view of the investment and how it would be affected by various changes in assumptions. Other contingencies, or changes in other variables, could be mapped out just as easily.

Qualitative considerations

The numbers don't tell the whole story, so your cost/benefit analysis should incorporate qualitative factors as well. Examples here include the strategic fit of the new opportunity with the company's mission, the ability to take on the new opportunity without losing focus, the likelihood of success given market conditions, and perhaps an increase in customer goodwill that the new investment would bring about.

Even though such factors are not fully quantifiable, try to quantify them as much as possible.

Make assumptions that can help you come up with a ballpark figure. Suppose you're trying to assess the value of improved information—more comprehensive data that is easier to understand and more widely available—that a new investment would bring. You could try to come up with a dollar figure that represents the value of employees' time saved by the new information, or the value of the increased customer retention that might be gleaned from better understanding purchase patterns. Such estimates should not necessarily be incorporated into your ROI or NPV analysis, but they can be very persuasive nevertheless.

Weigh the quantifiable and the unquantifiable factors.

For example, if the net present value of an investment opportunity is only marginally positive, you may want to give more qualitative considerations such as strategic fit an equal weight in your final decision.

Is breaking even hard to do?

Breakeven analysis is useful when considering an investment that will enable you to sell something new, or to sell more of something you already make. It tells you how much (or how much more) you need to sell in order to pay for the fixed investment—in other words, at what point you will break even. With that information in hand, you can look at market demand and competitors' market shares to determine whether it's realistic to expect to sell that much.

In more precise terms, the breakeven calculation helps you determine the volume level at which total contribution from a product line or investment equals total fixed costs.

The breakeven calculation

Before you can perform the calculation, you need to understand the components that go into it.

Variable costs are those expenses that change depending on how many units are produced and sold; examples would include labor, utility costs, and raw materials.

Contribution is defined as unit revenue minus variable costs per unit; it's the sum of money available to contribute to paying fixed costs.

Fixed costs are items such as insurance, management salaries, rent, product development costs—they're items that stay pretty much the same no matter how many units of a product or service are sold.

With these concepts, you can understand the calculation:

- Subtract the variable cost per unit from the selling price—this is the unit contribution.
- Divide total fixed costs, or the amount of the investment, by the unit contribution.
- The quotient is the breakeven volume, expressed as the number of units that must be sold in order for all fixed costs to be covered.

Breaking even on the coat rack investment

Consider the example of the new line of coat racks again. Suppose the new coat racks sell for \$75, and the variable cost per unit is \$22.

$$\text{\$75 (unit price)} - \text{\$22 (variable cost per unit)} = \text{\$53 (unit contribution)}$$

$$\text{\$250,000 (total investment required)} / \text{\$53 (unit contribution)} = 4,717 \text{ coat racks (breakeven volume)}$$

At this point, ACME must decide whether the breakeven volume is achievable: Is it realistic to expect to sell 4,717 additional coat racks, and if so, how quickly?

To calculate the breakeven volume for the extruder, you would define the unit contribution as the cost savings per unit.

Activity: Explore the breakeven point

What kinds of effects do changing the price, fixed costs, and variable costs have on the breakeven value?

You'll need this information to answer the question: The breakeven point graph shows how revenue in thousands relates to production costs and volume of units sold. The fixed cost is \$50,000. The breakeven point, which is here shown as the intersection of revenue and total cost, is reached at approximately \$78,000, after approximately 1,300 units have been sold.

In this situation, what combination of fixed cost, price per unit, and variable cost results in the breakeven point?

- ☐ Fixed cost = \$70k
Variable cost for one unit = \$21.50
Price per unit = \$48

Not the best choice. The chart shows the breakeven point occurs when fixed cost = \$50,000, variable costs per unit = \$21.50, and price per unit = \$60.

- ☐ Fixed cost = \$30k
Variable cost for one unit = \$21.50
Price per unit = \$60

Not the best choice. The chart shows the breakeven point occurs when fixed cost = \$50,000, variable costs per unit = \$21.50, and price per unit = \$60.

- ☐ Fixed cost = \$50k
Variable cost for one unit = \$21.50
Price per unit = \$60

Correct choice. The chart shows the breakeven point occurs when fixed cost = \$50,000, variable costs per unit = \$21.50, and price per unit = \$60.

Monitoring results



Regardless of whether you're tracking an investment opportunity you've decided to undertake, or the annual budget you've created for your unit, you need to monitor your ongoing results to make sure your projections are on course. Just how closely you should keep tabs on the results depends on your level of management. If you're an office manager, you should be aware of how much you're spending on paper clips and travel costs; if you're a division manager, you shouldn't care about this level of detail.

Tracking the performance of an investment

When you evaluate a new investment, you're planning for the long term—typically a year or more. But in the real world, things change and plans go awry. And estimates are valid only for a limited period of time. Your first task, therefore, is to track your projections versus actual revenues and expenses. It's a good idea to do this on a monthly basis, so that you can spot potential problems early on.

Consider the projections for the new coat rack division at ACME Hat Rack. Management ended up using Theodore Bullwinkle's optimistic profit projections. Here is the state of affairs early in the first quarter:

ACME Coat Rack Division January Results

Item	Budget Jan.	Actual Jan.	Variance
Coat rack revenues	\$39,000	\$38,725	\$(275)
Cost of goods sold	\$19,500	\$19,200	\$(300)
Gross margin	\$19,500	\$19,525	\$25
Marketing	\$8,500	\$10,100	\$(1,600)

Administrative expense	\$4,750	\$4,320	\$430
Total operating expense	\$13,250	\$14,420	\$(1,170)
Operating profit	\$6,250	\$5,105	\$1,145

The division is doing reasonably well on revenues and cost of goods sold. Its only really large negative variance is in the marketing expense line. It's difficult to be certain based on just the first month's figures: is this simply a one-time, or seasonal, variation, or is ACME going to have to spend more on marketing than Bullwinkle had anticipated?

The continue/discontinue decision

If your investment is not tracking according to budget, and if it looks like the pattern of unexpectedly high costs (or unexpectedly low revenues) is going to hold, it may be necessary to rethink the initiative—or even to discontinue it.

In the coat rack example, ACME decides, after further investigation, that the higher-than-expected marketing costs will continue—and Bullwinkle's prediction that the coat racks would sell themselves will not be borne out. The revised forecast, however, confirms Sherman Peaboddy's forecast about marketing costs and an annual profit stream of \$60,000. The new line of coat racks still seems to be economically viable, but not the huge success that Bullwinkle believed it would be.

Tracking your budget



Tracking the budget for an already established unit involves many of the same procedures discussed previously, but the continue/discontinue decision doesn't come into play as readily. Instead, managers

monitor results in order to be able to make necessary spending or operating adjustments as quickly as possible.

To track your budget, follow these three steps:

- Assess monthly revenue performance versus budget.
- Assess monthly expense performance versus budget.
- Determine whether—and if so, how—your bottom line will be affected by any variances.

Leadership Insight: Look beyond the numbers

Behind every set of accounts is a story. At the end of the day, the accounts are a function of your business, and what you are doing on a day-to-day basis is what the numbers will tell you — provided that the accountants got it right, of course. But generally speaking, they will tell you what is going on in your business. And you need to understand and to be able to get that picture in your head of what those numbers are telling you.

For example, I spend some of my time walking around building sites for a large property development business. It's when you actually get onto the building site that you can feel what is going on. You can look at a pile of air-conditioning equipment sitting on the side of the building site and go, "Have I got those provisions in my accounts?"

Or if there's a figure in my accounts for mechanical that is over budget, I don't really understand that, but getting out into your businesses and talking to the people in your businesses will enable you to have a better understanding — not necessarily clear, but a better understanding of what the numbers are actually telling you.

There are many examples of forming relationships with people on sites, where you can ring them up once you've formed that relationship and you can find out information that enables you to get that higher picture of what's going on in your business.

The numbers tell a story about your business.

Michael Shinton

Chief Financial Officer, Asian Pacific Building Corporation Pty Ltd

Michael Shinton is the Chief Financial Officer at Asian Pacific Building Corporation Pty Ltd, a family-owned property development and services business. The company's primary business involves the purchase and development of large commercial properties, with subsidiary service businesses in serviced offices, car parking, telecommunications, real estate management, facilities management, and hotel operations.

Prior to joining Asia Pacific Building Corporation in 2004, Michael worked in senior finance roles for a number of leading property developers in Melbourne, Australia, as well as project management and consulting organizations. He began his finance career while working for the U.K. division of Vivendi, an international media conglomerate. Michael is a Chartered Management Accountant and is a Certified Public Accountant in Australia.

Manage the unexpected

For line items that contain surprises, ask first if the reason has to do with timing. In other words, do you have a monthly aberration or a long-term problem? If you suspect an aberration, you don't need to be too concerned—the situation should straighten itself out. Nevertheless, be sure to keep a close eye on those particular line items during subsequent months.

If the cause of the variance is not an aberration, however, you need to reexamine your assumptions and adjust the budget accordingly. Try to uncover what other reasons may lie beneath your faulty projections. Maybe expenses are higher than budgeted because sales have increased sharply—in which case, expense overruns would be good news rather than bad. In many cases, however, you'll have to find some way to make up the loss. Can you reallocate expenses—that is, decrease spending for certain line items—to compensate for line items that are over budget? Make sure to involve team members in figuring out how to get back on track.

If it doesn't look like you're going to make your budget, communicate this to upper management. That way, they can make appropriate adjustments in the overall company budget. They may also provide you with direction on whether and how to address the shortfalls.

Reassessing your forecast

And last, reassess your forecasts quarterly. Budgets are made annually, but estimates are often inaccurate. It's not unusual to miss on your estimates from time to time. Reassessing quarterly is a good way to check your forecasts against reality. Updating your forecasts regularly ensures that you and senior management always have the latest and most accurate information to base decisions on.

But when you do adjust your budget, don't throw out the old estimates. When budget time rolls around next year, you'll want to be able to assess how accurate your original assumptions were. This will help you improve your estimates the next time around.

Key Terms

Accounts payable (A/P). Money owed by the firm to agencies and suppliers.

Accounts receivable (A/R). Money owed to a company for goods or services sold. The figure is important in determining a business's ability to meet its financial obligations.

Accrual accounting. An accounting method whereby income and expenses are booked when they are incurred, regardless of when they are actually received or paid. Revenues are recognized during the period in which the sales activity occurred; expenses are recognized in the same period as their associated revenues.

Accruals. An amount incurred as an expense in a given accounting period—but not paid by the end of that period. An example would be the electricity bill for a given quarter.

Acid-test ratio. See quick ratio.

Activity-based costing (ABC). An approach to cost accounting that focuses on the activities or cost drivers required to produce each product or provide each service. ABC assumes that most overhead costs are related to activities within the firm and that they vary with respect to the drivers of those activities.

Allocation. The process of spreading costs from one expense category to several others, typically based on usage. For example, such corporate overhead expenses as rent and utilities may be charged to departmental units based on square feet.

Amortized expenses. The costs for assets such as buildings and computers, which are depreciated (expensed) over time to reflect their usable life.

Assets. The economic resources of a company. Assets commonly include cash, accounts receivable, notes receivable, inventories, land, buildings, machinery, equipment, and other investments.

Asset turnover. A measure of how efficiently a company uses its assets. To calculate asset turnover, divide sales by assets. The higher the number, the better.

Balance sheet. A means of summarizing a company's financial position—its assets, equity, and liabilities—at a specific point in time. According to the basic equation in a balance sheet, a company's assets equal its liabilities plus owner's equity. Balance sheet data is most helpful when compared with information from a previous year.

Banker's ratio. See current ratio.

Book value. The value at which an asset is carried on a balance sheet. The book value of equipment is reduced each year for depreciation. Therefore, the book value at any time is the cost minus accumulated depreciation.

Bottom-up budgeting. A process whereby managers put together budgets that they feel will best meet the needs and goals of their respective departments. These budgets are then "rolled up" to create an overall company budget, which is then adjusted, with requests for changes being sent back down to the individual departments.

Breakeven. The volume level at which the total contribution from a product line or investment equals total fixed costs. To calculate the breakeven volume, subtract the variable cost per unit from the selling price to determine the unit contribution, and then divide the total fixed costs by the unit contribution.

Capital expenditure/capital investment. The payment required to acquire or improve a capital asset. See investment in PP&E.

Cash-basis accounting. An accounting process that records transactions when cash actually changes hands. This practice is less conservative than accrual accounting when it comes to expense recognition, but sometimes more conservative when it comes to revenue recognition.

Cash flow statement. A review of a company's use of cash, this statement tells where the company's money comes from, and where it goes—in other words, the flow of cash in, through, and out of the company.

Cash utilization/cash flow measure. The changes that affect a cash account during an accounting period.

Chart of accounts. A way to outline the accounting system of a business, the chart of accounts establishes how the business will operate, what information will be captured, and what information will subsequently be readily retrievable by the system. It includes such items as inventory, fixed assets, accounts receivable, and costs.

Contributed capital. Capital received in exchange for stock.

Contribution. The unit revenue minus variable costs per unit. The sum of money available to contribute to paying fixed costs.

Cost/benefit analysis. A form of analysis that evaluates whether, over a given time frame, the benefits of the new investment, or the new business opportunity, outweigh the associated costs.

Cost of capital. The costs of different types of capital, including short-term debt, long-term debt, and equity. This cost is typically expressed as a percentage of the underlying capital.

Cost of goods sold (COGS). The total cost paid for the products sold during the accounting period, plus freight-in costs. Most small retail and wholesale businesses compute cost of goods sold by adding the value of the goods purchased during the accounting period to the value of the beginning inventory, and then subtracting from that figure the value of the inventory on hand at the end of the accounting period. For manufacturers, cost of goods sold includes, in addition to raw materials, the direct cost of manufacturing labor (including Social Security and unemployment taxes on factory employees), and overhead charges such as supervision, power, and supplies.

Cost of services (COS). Charges billed to a customer for a service. Overhead is often included in the calculation of the cost of services.

Costs and expenses. The costs related to running the business—for example, salaries, office overhead, light, heat, legal and accounting services.

Current assets. Those assets that are most easily converted into cash: cash on hand, accounts receivable, and inventory.

Current ratio. This is a prime measure of how solvent a company is. It's so popular with lenders that it's sometimes called the banker's ratio. Generally speaking, the higher the ratio, the better financial condition a company is in. A company that has \$3.2 million in current assets and \$1.2 million in current liabilities would have a current ratio of 2.7 to 1. That company would be generally healthier than one with a current ratio of 2.2 to 1. To calculate the current ratio, divide total current assets by total current liabilities.

Days inventory. A measure of how long it takes a company to sell the average amount of inventory on hand during a given period of time. The longer it takes to sell the inventory, the greater the likelihood that it will not be sold at full value—and the greater the sum of cash that gets tied up. To calculate days inventory, divide the average amount of inventory on hand for the period by the cost of goods sold for the same period, then multiply that quotient by 365.

Days payables. A measure that tells how many days—based on balance sheet and income statement data—it actually takes a company to pay its suppliers. The fewer the days it takes, the less likely the company is to default on its obligations. To calculate days payables, divide accounts payable by the cost of goods sold for the period in question, then multiply that quotient by 365.

Days receivables. A measure that tells you in concrete terms—based on balance sheet and income statement data—how long it actually takes a company to collect what it is owed. A company that takes 45 days to collect its receivables will need significantly more working capital than one that takes four days to collect. To calculate days receivables, divide net accounts receivable for the given time period by net sales, then multiply that quotient by 365.

Debt. What is owed to a creditor or supplier. Debt is sometimes referred to as notes payable or bonds payable.

Debt to equity. This measure provides a description of how well the company is making use of borrowed money to enhance the return on owner's equity. To calculate the debt-to-equity ratio, divide total debt (long-term debt plus short-term debt plus current maturities) by total shareholders' equity.

Depreciation. A way of accounting for the diminishing value of an asset as time goes by.

Direct vs. indirect costs. Costs that are directly attributable to the manufacture of a product—for example, the cost of plastic for a bottling company. Direct costs vary in direct proportion to the number of units produced. Indirect costs cannot be directly attributed to a particular product—for example, the cost of machines that are used in the production of more than one product.

Dividend. A payment (usually occurring quarterly) to the stockholders of a company, as a return on their investment.

Earnings before interest and taxes (EBIT). See operating profit.

Earnings per share (EPS). One of the most commonly watched indicators of a company's financial performance, it equals net income divided by the number of shares outstanding. When EPS falls, it usually takes the stock's price down with it.

Earnings statement. See income statement.

Economic Value Added (EVA). The profit left over after a company has met the cost of capital—the expectations of those who provided of the capital.

Equity. The value of a company's assets minus its liabilities. On a balance sheet, equity is referred to as shareholders' equity or owner's equity.

Expenditure. An activity that results in an expense, or, the payment of cash for goods or services. This is a more specific term than "disbursement," which can include payments other than cash.

Financial leverage. A company's long-term debt in relation to its capital structure (the total of its common stock, preferred stock, long-term debt, and retained earnings). A company that has consistently high earnings can afford to be more leveraged, that is, it can afford to carry more long-term debt than a company whose earnings fluctuate significantly.

Financial statements. Reports of a company's financial performance. The three basic types of statement included in an annual report—the income statement, the balance sheet, and the cash flow statement—present related information, but provide different perspectives on a company's performance.

Fiscal Periods. An accounting time period (month, quarter, year), at the end of which the books are closed and profit or loss is determined.

Fixed assets. Assets that are difficult to convert to cash—for example, buildings, and equipment. Sometimes called plant assets.

Fixed costs. Fixed costs remain constant despite sales volume; they include interest expense, rent, depreciation, and insurance expenses.

General ledger. A company's centralized and authoritative accounting record, where balance sheet, income, and expense information for the period in question is summarized.

Generally accepted accounting principles (GAAP). The rules and conventions that accountants follow in recording and summarizing transactions and preparing financial statements.

Gross margin. A ratio that measures the percentage of gross profit relative to sales revenue.

Gross profit. The sum left over after all direct product expenses or costs of goods sold have been subtracted from revenues.

Growth. An increase in the value of a company's revenues, profits, or the value of its equity.

Growth indicators. Measures that tell about a company's financial health. Common measures of growth include sales growth, profitability growth, and growth in earnings per share.

Hurdle rate. The rate of return on investment dollars required for a project to be worthwhile. It is typically a higher rate of return than what would have been obtained by investing the capital in low- or moderate-risk financial instruments.

Income statement. A report that indicates how much profit or loss a company generates over a period of time—a month, a quarter, or a year. In addition, the income statement, sometimes referred to as the earnings statement, tells how much money the company spends to make its profits.

Interest coverage. This measures a company's margin of safety, or how many times over the company can make its interest payments. To calculate interest coverage, divide earnings before interest and taxes by the interest expense.

Internal rate of return (IRR). The discount rate at which the net present value (NPV) of an investment equals zero.

Inventory. The supplies of the company that are or will become its product. Examples include the merchandise in a shop, the finished work in a warehouse, work-in-progress, and raw materials.

Investment in PP&E. Dollars spent on property, plant, and equipment. Sometimes called capital investment or capital expenditures.

Invoice. A bill submitted to the purchaser, listing all items or services, together with amounts for each.

Journals. The transaction records of the business.

Leverage ratios. Ratios that assess a company's debt structure. The greater the component of long-term debt in a company's overall debt structure, the greater the financial leverage. These ratios, including interest coverage and debt to equity, help determine whether a company's level of debt is appropriate and assess its ability to pay the interest on its debts.

Liabilities. The economic claims against a company's resources. Such debts include bank loans, mortgages, and accounts payable.

Margin (%). Another term for profit, this equals revenues minus expenses. The margin is often expressed as the percentage by which revenues exceed expenses.

Market price appreciation. The increase in the value of an asset over a specified time period.

Market value. The value of an asset if it were to be sold at the current market price.

Net book value (NBV). The value at which an asset appears on the books of an organization, minus any depreciation (usually as of the date of the last balance sheet) that has been applied since its purchase or its last valuation.

Net income. The income of an organization after deducting the expenses, including interest and taxes, incurred in earning that income.

Net income per employee. See productivity measures.

Net present value (NPV). The economic value of an investment, calculated by subtracting the cost of the investment from the present value of the investment's future earnings. Because of the time value of money, the investment's future earnings must be discounted in order to be expressed accurately in today's dollars.

Operating cash flow (OCF). The net movement of funds from the operations side of a business, as opposed to the investment side. OCF is usually described in terms of the sources and uses of cash. When more cash is going out than coming in, there is a negative cash flow; when more cash is coming in than going out, there is a positive cash flow.

Operating earnings. Gross margin less operating expenses and depreciation. Also called earnings before interest and taxes, or EBIT.

Operating expenses. Expenses that occur in operating a business, for example: administrative employee salaries, rents, sales and marketing costs, as well as other costs of business not directly attributed to manufacturing a product.

Operating profit (EBIT). The difference between the revenues of a company and the costs and expenses associated with conducting business. Also known as earnings before interest and taxes (EBIT).

Operating ratios. Financial measures that link various income statement and balance sheet figures to provide an assessment of a company's operating efficiency. Examples of operating ratios include asset turnover, days receivables, days payables, days inventory, current ratio, and quick ratio.

Owner's equity. See equity.

Payback period. The length of time needed to recoup the cost of a capital investment; the time that transpires before an investment pays for itself.

Pretax profit. Net income before federal income taxes.

Price-to-book ratio. A method of valuation for stock, this ratio is calculated by dividing the current market price of a share of stock by the stock's book value per share.

Price-to-earnings ratio (P/E). A common measure of how cheap or expensive a stock is, relative to earnings. P/E equals the current price of a share of stock divided by the previous 12 months' earnings per share.

Productivity measures. Indicators such as sales-per-employee and net-income-per-employee, which link revenue and profit generation information to work force data, thereby providing a picture of employees' effectiveness in producing sales and income.

Profit margin. See return on sales.

Profitability ratios. Measures of a company's level of profitability, in which sales and profits are expressed as a percentage of various other items. Examples include return on assets, return on equity, and return on sales.

Property, plant, and equipment (PP&E). A line item on a balance sheet that lists the value of a business's land, buildings, machinery, equipment, and natural resources that are used for the purpose of producing products or providing services.

Purchase order. A written authorization to a vendor to deliver goods or services at an agreed upon price. When the supplier accepts the purchase order, it is a legally binding purchase contract.

Quick ratio. A measure of a company's assets that can be quickly liquidated and used to pay debts. It is sometimes called the acid-test ratio, because it measures a company's ability to deal instantly with its liabilities. To calculate the quick ratio, divide cash, receivables, and marketable securities by current liabilities.

Ratio analysis. A means of analyzing the information contained in the three financial statements, a financial ratio is two key numbers from a company's financial statements expressed in relation to each other. Ratios are most meaningful when compared to the same measures for other companies in the same industry.

Retained earnings. Annual net profits left after payments of dividends that accumulate on a company's balance sheet.

Return on assets (ROA). Expressed as a percentage, ROA is a quantitative description of how well a company has invested in its assets. To calculate it, divide the net income for a given time period by the total assets. The larger the ROA, the better a company is performing.

Return on equity (ROE)/return on owner's equity. This measure shows the return on the portion of the company's financing that is provided by owners. It answers the question, "How profitable have management's efforts been?". To calculate ROE, divide the total income by total owners' equity.

Return on investment (ROI). A financial ratio measuring the cash return from an investment relative to its cost.

Return on sales (ROS). Also known as profit margin, ROS is a way to measure a company's operational efficiency—how its sales translate into profit. To calculate ROS, divide net income by the total sales revenue.

Sales. An exchange of goods and services for money.

Shareholders' equity. See equity.

Sunk costs. Prior investment that cannot be affected by current decisions, and thus should not be factored into the calculation of the profitability of an initiative.

SWOT analyses. An analysis of a company's strengths, weaknesses, opportunities, and threats.

Time value of money. The principle that a dollar received today is worth more than a dollar received at a given point in the future. Even without the effects of inflation, the dollar received today would be worth more because it could be invested immediately, thereby earning additional revenue.

Top-down budgeting. A budgeting process whereby senior management sets very specific objectives for such things as net income, profit margins, and expenses. Unit managers then allocate their budget within these parameters to ensure that the objectives are achieved.

Valuation. An estimate of a company's value, usually for the purposes of purchase and sale, or taxation. Leverage ratios and operating ratios provide means of evaluating and comparing companies' worth. Wall Street uses other ratios that describe a company's financial performance in relation to its stock price: earnings per share (EPS), price-to-earnings ratio (P/E), and price-to-book ratio.

Variable costs. Costs that are incurred in relation to sales volume; examples include the cost of materials and sales commissions.

Working capital. A measure of a business's ability to pay its financial obligations, working capital equals the difference between a company's current assets (easily sellable goods, cash, and bank deposits) and its current liabilities (debt due in less than a year, interest payments, etc.). Shortages of working capital are often relieved by short-term loans.

Overview

This section provides interactive exercises so you can practice what you've learned. These exercises are self-checks only; your answers will not be used to evaluate your performance in the topic.

Scenario

Assume the role of a manager in a fictional situation and explore different outcomes based on your choices (5-10 minutes).

Check Your Knowledge

Assess your understanding of key points by completing a 10-question quiz (10 minutes).

Scenario: Part 1

Part 1

Simone, the CEO of LiveRight, Inc., a health care manufacturer, wants to grow the company. She is considering acquiring VitaCorp, a small firm that makes vitamins, and has encouraged division managers to look for ways to expand their product lines.

Simone distributes copies of VitaCorp's income statements, balance sheets, and cash flow statements to senior management and invites them to a meeting to discuss the potential acquisition.

Paul, the new manager of LiveRight's skin care division, flips through the financial statements and wonders how to interpret the numbers. He decides to start by getting a "snapshot" of VitaCorp's current financial position and its general direction.

Which of the following will provide Paul with a snapshot of VitaCorp's current financial position?

- VitaCorp's income statements, which will identify revenues and expenses as well as changes in net income in recent years

Not the best choice.

The income statement conveys vital information about a company's cost structure and profitability over a stated period of time, such as a fiscal quarter or year. In contrast, the balance sheet provides a snapshot of VitaCorp's financial position as of a specific date. The balance sheet shows a company's assets,

liabilities, and owner's equity (what's left after subtracting liabilities from assets). It shows how efficiently a company is utilizing its assets and how well it's managing its liabilities in pursuit of profits.

- VitaCorp's most recent balance sheet, which will show the company's total assets and liabilities

Correct choice.

A company's balance sheet is like a "snapshot" because it shows its financial position at a specific point in time. It lists the company's current assets (e.g., inventory, property, plants, and equipment), liabilities (such as short- and long-term debt, accounts payable, and accrued expenses), and owner's equity (total assets minus total liabilities). By comparing recent balance sheets, you can learn something about the company's general direction. For example, a decrease in total liabilities, along with an increase in owner's equity, may suggest a positive direction.

- VitaCorp's return on assets (ROA), calculated by dividing net income by total assets

Not the best choice.

Though return on assets (ROA) offers useful information about how well a company has invested its assets, it doesn't reveal the company's overall financial position at a specific point in time. To assess financial position, you need to look at the balance sheet.

However, return on assets is one of many different ratio analyses you can perform to get a fuller picture of the company's health. Ratio analyses let you combine the "stories" told in the various financial statements. For example, to calculate return on sales (ROS), you divide net income (from the income statement) by total sales revenue (also from the income statement). To calculate return on equity (ROE), you divide net income (from the income statement) by owner's equity (from the balance sheet).

Scenario: Part 2

Part 2

In her effort to grow the company, Simone eventually decides to acquire VitaCorp. Next she follows up on her request that division managers expand their product lines. She asks Paul to report on any opportunities in the skin care line. Paul has been exploring whether his group should add a new, vitamin-based moisturizer to its line. The venture would require substantial investment, and Paul wonders whether he should commit to the new product.

What information might Paul examine to decide whether to launch the new product?

- To see how many units of the product he'd have to sell to generate profits, divide the total required investment by the expected unit contribution

Correct choice.

This breakeven analysis tells you how many units of a new product you must sell in order to pay for your investment in the product. For example, suppose Paul expects to sell the new moisturizer for \$35 per unit and the per-unit variable costs total \$5. The unit contribution would thus be \$30 (\$35 minus \$5). And suppose he believes his division must invest \$75,000 to launch the product. By dividing the \$75,000 investment by \$30 (the unit contribution), he arrives at a breakeven volume of 2,500 units. Any units sold in addition to the 2,500 would generate profit. By calculating the number of years it will take to break even, you can begin to judge the merit of a potential investment.

- To see if the product would be a good use of the department's investment dollars, calculate the product's expected future profit stream in terms of today's dollars

Correct choice.

This net present value (NPV) calculation takes into account the time value of money, which states that a dollar you receive today is worth more than one you receive five years from now because you can invest today's dollar. NPV lets you express an investment's expected future income in terms of current dollars and show the number of years you expect the product's profit stream to continue. (The math is complex, but most calculators and spreadsheet programs make NPV calculations for you.) By calculating NPV, you can decide whether a particular opportunity is a good use of your investment dollars.

- To calculate the product's potential earnings, divide expected net sales by the expected earnings before interest and taxes (EBIT)

Not the best choice.

Analysts use the earnings before interest and taxes margin (EBIT) indicator to see how profitable a company's operating activities are—not to conduct a cost/benefit analysis of a particular investment opportunity. In fact, the EBIT margin is impossible to calculate at the product level because interest and taxes don't accrue for an individual product. Paul should use cost/benefit analysis tools to make a decision—such as net present value (NPV), breakeven analysis (the number of units you have to sell

to pay for your investment in the product), and payback period (how long a particular investment will take to pay for itself).

By combining breakeven analysis with other kinds of cost/benefit analyses—such as return on investment (ROI), net present value (NPV), and sensitivity analysis—you can make an even more informed decision.

Scenario: Part 3

Part 3

After conducting several cost/benefit analyses, Paul decides to move ahead with the new product. His group develops and launches the moisturizer. In the first quarter following the launch, Paul reviews financial reports on the new product's performance. The revenues generated by the product are somewhat lower than expected, and the marketing costs are substantially higher than he had forecast.

From these initial figures, it's not clear that LiveRight's investment in the product will turn out to be profitable. Paul wonders what to do next.

In response to early feedback, what might Paul do next?

- To understand whether the figures reflect one-time start-up costs, wait and analyze the product's performance again in three months

Not the best choice.

Though a quarterly reassessment of the product's performance might be okay for an established product, managers should assess performance much more frequently—ideally, every month—with new investments. That way, they can spot and respond to potential problems earlier.

For example, if the unexpectedly high marketing expenses turn out not to be a one-time phenomenon, Paul will realize that quickly and be able to take appropriate action.

- To come up with more accurate forecasts for the product, investigate potential causes of the higher-than-expected marketing costs

Correct choice.

Whenever you see a difference between projected and actual performance on an investment, it's wise to figure out the potential causes before changing your forecasts or strategy.

For example, perhaps marketing (including direct mail) expenses are higher than Paul anticipated because of unexpected hikes in paper costs. Whatever the reason, Paul might want to explore ways to make up the loss—possibly by cutting costs elsewhere in his budget. Or, he might decide to live with low returns in the short run, if there are reasons to believe the product will succeed in the long term.

These are complex decisions. The best way to approach them is to regularly examine what's going on, revise forecasts accordingly, reassess the attractiveness of the opportunity, and investigate new strategies for improving the situation. If you can't see any solutions, you might eventually consider discontinuing the product and cutting your losses.

- To compensate for the higher-than-expected marketing costs, look for places to cut expenses elsewhere in the budget

Not the best choice.

Though Paul might eventually look for ways to cut expenses elsewhere in the budget, he should "do his homework" before resorting to that solution. He should figure out the potential causes of the unexpected figures, revise his forecasts if necessary, and develop strategies for improving the product's performance.

For example, if he discovers that marketing costs are high because of rising paper prices—and that paper costs are expected to remain high—he might suggest marketing the product through less expensive means, such as broadcast e-mails.

Scenario: Conclusion

Conclusion

Paul discovers that marketing expenses are likely to remain high for a while because of spiraling ad space costs. He works with the marketing group to create a less expensive electronic strategy for marketing the new moisturizer. After two months, financial reports for the product are promising—marketing costs are down and revenues have begun to climb.

Even though financial statements and ratio analyses may be unfamiliar territory for many non-financial managers, you still need a basic understanding of these tools. Why? When you understand how financial analysis works, you can find ways to augment your group's profitability and build a convincing case for important business decisions. Both you and your company benefit.

Activity: Check Your Knowledge: Question 1

If you want to recognize revenue during the period in which the related sales activity occurred, which accounting method would you use?

- [Accrual accounting](#)

Correct choice.

With accrual accounting, income and expenses are recorded when they are incurred, regardless of whether cash is actually received or paid in that period. By matching revenues with expenses in the same time period, accrual accounting helps managers understand the true cause-and-effect connections between business activities.

- [Cash-basis accounting](#)

Not the best choice.

It is accrual accounting in which income and expenses are recorded when they are incurred, regardless of whether cash is actually received or paid during that period. In cash-basis accounting, revenues and expenses are booked only when cash actually changes hands. As a result, the expenses associated with a particular sale may not be recorded in the same time period as the revenues.

Check Your Knowledge: Question 2

Which of the following would be considered a cost of goods sold?

- [Administrative employee salaries](#)

Not the best choice.

Cost of goods sold includes the materials, labor, and other costs that are directly attributable to manufacturing a product or delivering a service. The correct choice is "assembly labor costs," which includes the wages and benefits of employees who actually build products.

- [Sales and marketing costs](#)

Not the best choice.

Cost of goods sold includes the materials, labor, and other costs that are directly attributable to manufacturing a product or delivering a service. The correct choice is "assembly labor costs," which includes the wages and benefits of employees who actually build products.

- [Rents](#)

Not the best choice.

Cost of goods sold includes the materials, labor, and other costs that are directly attributable to manufacturing a product or delivering a service. The correct choice is "assembly labor costs,"

which includes the wages and benefits of employees who actually build products.

- [Assembly labor costs](#)

Correct choice.

Assembly labor costs are considered a "cost of goods sold." Cost of goods sold includes the materials, labor, and other expenses that are directly attributable to manufacturing a product or delivering a service.

- [Advertising costs](#)

Not the best choice.

Cost of goods sold includes the materials, labor, and other costs that are directly attributable to manufacturing a product or delivering a service. The correct choice is "assembly labor costs," which includes the wages and benefits of employees who actually build products.

Check Your Knowledge: Question 3

In most finance systems, what is the time frame that distinguishes short-term liabilities, also known as current liabilities, from long-term liabilities?

- [Short-term liabilities typically have to be paid in a year or less; long-term liabilities take more than a year to repay.](#)

Correct choice.

Generally, short-term liabilities have to be paid in a year or less. Long-term liabilities stretch out over a longer time period, and include items such as long-term bonds and mortgages.

- [Short-term liabilities typically have to be paid within 18 months; a long-term liability takes more than 18 months to repay.](#)

Not the best choice.

In general, short-term liabilities come due in a year or less; long-term liabilities, such as bonds or mortgages, stretch out over a longer time period.

- [Short-term liabilities typically must be paid in 6 months or less; long-term liabilities take over 6 months to repay.](#)

Not the best choice.

In general, short-term liabilities come due in a year or less; long-term liabilities, such as bonds or mortgages, stretch out over a longer time period.

Check Your Knowledge: Question 4

If the income statement can tell you whether a company is making a profit, what does the cash flow statement tell you?

- [How efficiently a company is using its assets](#)

Not the best choice.

How efficiently a company is using its assets reflects data available on the balance sheet, not the cash flow statement. The cash flow statement reveals whether a company is turning its profits into cash.

- [Whether a company is turning profits into cash](#)

Correct choice.

It is the cash flow statement that tells you whether a company is turning its profits into cash.

- [How well a company is managing its liabilities](#)

Not the best choice.

How well a company is managing its liabilities reflects data available on the balance sheet, not the cash flow statement. The cash flow statement reveals whether a company is turning its profits into cash.

Check Your Knowledge: Question 5

Many analysts like to look at a ratio that shows how profitable a company's operating activities are. Which ratio shows this?

- [Acid-test ratio](#)

Not the best choice.

The acid-test ratio measures a company's ability to quickly liquidate assets in order to meet cash needs. It is the EBIT (Earnings Before Interest and Taxes) margin, also known as the operating margin, that many analysts use to see how profitable the company's operating activities are.

- [Profit margin](#)

Not the best choice.

The profit margin is a way to measure how sales translate into net income.

It is the EBIT (Earnings Before Interest and Taxes) margin, also known as the operating margin, that many analysts use to see how profitable the company's operating activities are.

- [EBIT margin](#)

Correct choice.

Many analysts use the EBIT (Earnings Before Interest and Taxes) margin, often known as the operating margin, to see how profitable the company's operating activities are.

Check Your Knowledge: Question 6

At ABC Co., unit heads develop budgets for their departments that are linked to company performance objectives. Is this top-down or bottom-up budgeting?

- [Top-down](#)

Correct choice.

In top-down budgeting, senior management sets specific performance objectives for individual units. For instance, unit managers may be asked to limit expense growth to no more than 5% over last year's expenses. Unit managers then develop their budgets within those parameters to ensure that the high-level company objectives are achieved.

- [Bottom-up](#)

Not the best choice.

This is actually a top-down budgeting scenario. In top-down budgeting, senior management sets specific performance objectives for individual units. For instance, unit managers may be asked to limit expense growth to no more than 5% over last year's expenses. Unit managers then develop their budgets within those parameters to ensure that the high-level company objectives are achieved. In companies that use a bottom-up budgeting process, individual units start by creating their own budgets, which are then "rolled up" to create a companywide view. Units are then asked to make adjustments in order to ensure that the company's overall growth and profit performance will be acceptable.

Check Your Knowledge: Question 7

As you begin to prepare your unit's budget, your manager reminds you to be aware of the "scope" of your budget. What does "scope" of a budget imply?

- [The context of the proposed budget: the three to five goals that the budget you are going to prepare aims to achieve](#)

Not the best choice.

Though goals are important to include in a budget, this isn't what "scope" implies. When you're preparing a budget, "scope" implies two things: the part of the company the budget is supposed to cover, and the level of detail it should include.

- [The part of the company the budget is supposed to cover and the level of detail it should include](#)

Correct choice.

Scope implies two things: the part of the company your budget is supposed to cover, and the level of detail it should include.

- Whether the budget includes revenues and profits as well as the operating costs of your unit

Not the best choice.

Though revenues and expenses are useful parts of a budget, this isn't what "scope" implies. When you're preparing a budget, "scope" implies two things: the part of the company the budget is supposed to cover, and the level of detail it should include.

Check Your Knowledge: Question 8

When you're preparing a cost/benefit analysis, ROI and payback period analyses can help you compare and communicate the merits of different options. What, however, is the drawback to both analytic methods?

- Both ROI and payback period analyses ignore the time value of money.

Correct choice.

Because both methods ignore the time value of money, they do not provide as accurate an economic picture as more sophisticated tools, such as net present value and internal rate of return.

- ROI and payback period analyses do not take into account how long it will take for the investment to break even.

Not the best choice.

ROI and payback period analyses, though they are relatively easy to prepare and convey to upper management, do not take into account the time value of money.

Net present value and internal rate of return, though more complicated, offer a more accurate picture of cost/benefit for an investment.

- ROI and payback period analyses can only be used to evaluate potential capital investments, not other types of new business opportunities.

Not the best choice.

ROI and payback period analyses, though they are relatively easy to prepare and convey to upper management, do not take into account the time value of money.

Net present value and internal rate of return, though more complicated, offer a more accurate picture of cost/benefit for an investment.

Check Your Knowledge: Question 9

Your company is considering making an investment that could enable your division to sell more units of the Gargoyle tracking software introduced last year. Your manager has asked you to determine how

likely it is that this investment will be recouped. What analytical method might give you this information?

- [Sensitivity analysis](#)

Not the best choice.

Sensitivity analysis offers a view of how an investment would be affected by various assumptions. The correct answer is breakeven analysis. Breakeven analysis tells you how much (or how much more) of a product you need to sell in order to pay for a fixed investment—in other words, at what point you will financially break even.

- [Breakeven analysis](#)

Correct choice.

Breakeven analysis tells you how much (or how much more) of a product you need to sell in order to pay for a fixed investment—in other words, at what point you will financially break even. You can then use your sales history and knowledge of the market to determine whether the breakeven volume is achievable.

- [Internal rate of return analysis \(IRR\)](#)

Not the best choice.

IRR analysis helps you decide whether a particular investment opportunity meets the company's target rate of return. The correct answer is breakeven analysis. Breakeven analysis tells you how much (or how much more) of a product you need to sell in order to pay for a fixed investment—in other words, at what point you will financially break even.

Check Your Knowledge: Question 10

To track your budget, you carry out three steps on a monthly basis. Step 2 is missing in the list below; what is it?

Step 1. Assess monthly revenue performance versus budget.

Step 2. _____

Step 3. Determine whether—and if so, how—your bottom line will be affected by any variances.

- [Assess monthly expense performance versus budget](#)

Correct choice.

Step 2 is to assess the monthly expense performance versus budget. By understanding how revenue and expense performance compare against your budget, you can then determine whether (and how) your bottom line will be affected by any variances.

- [Assess monthly expense performance versus revenue performance for that same month](#)

Not the best choice.

The three steps you want to follow to track your budget are:

Step 1: Assess monthly revenue performance versus budget.

Step 2: Assess monthly expense performance versus budget.

Step 3: Determine whether—and if so, how—your bottom line will be affected by any variances.

- **Compare monthly revenue performance with projected quarterly revenue performance**

Not the best choice.

The three steps you want to follow to track your budget are:

Step 1: Assess monthly revenue performance versus budget.

Step 2: Assess monthly expense performance versus budget.

Step 3: Determine whether—and if so, how—your bottom line will be affected by any variances.

Check Your Knowledge: Results

Your score:

Steps for creating a budget

1. Analyze your company's overall strategy.

- What's the forecast for the global and national economy?
- What are current industry trends and forecasts?
- What are your company's strengths, weaknesses, opportunities, and threats?
- How do your company's culture and values affect its approach to specific financial decisions?

2. Set targets for your company.

- If your company does top-down budgeting, start with the targets given to you by senior management.
- If your company does bottom-up budgeting, create these targets yourself.
- What will best meet the needs of your unit? List the 3–5 most important goals for your unit—and put an expected completion date on each of them.

3. Articulate your assumptions.

- What ongoing and/or one-time "events" do you want to see happen during the upcoming budget period? Assess the revenue and cost implications of each event.
- Check the previous year's budget for ideas you can refine.

4. Quantify your assumptions.

- Assign specific revenue and cost numbers to each of the events you've planned for your unit.
- Get input from other team members about estimates for particular line items.
- Check trade publications for industry averages to use as benchmarks.
- Using a spreadsheet program, put the numbers in an abbreviated income statement template. Instead of including key assumptions and drivers in formulas, put them into

separate cells so that they can be easily understood by others—and easily changed if the need arises. While you're at it, set up your spreadsheet so that you're ready for the tracking phase: create places for actuals, account numbers, charge codes.

- Present the numbers in the proper format. If the company has specific policies about presenting a budget, make sure your budget complies with the format. Include the level of detail that is appropriate to your position in the company.

5. Take a step back.

- Do the numbers add up? Does the budget meet the goals you and your senior management have established? What does the bottom line look like? How does it compare to last year?
- Can you provide documentation for your assumptions?
- Is the budget defensible? What questions are most likely to arise when senior management looks at your budget? How will you answer them? What adjustments or concessions would be easiest to make if your budget is not approved?
- Write an executive summary that includes key points and numbers, as well as a précis of the major initiatives planned for your unit in the coming year.

Steps for tracking a budget

1. Assess performance at least monthly.

- Pay special attention to large positive and negative variances, and figure out what's causing them.
- Is it a matter of timing—a cost or expense not having been booked at the time the budget update was prepared? Or is it a seasonal or one-time variation? If it's one of these, you probably don't need to change anything. But keep monitoring such variances over subsequent months to make sure that they do indeed straighten themselves out.
- If it's not a matter of timing or some one-time aberration, you probably need to alter your assumptions. What concrete adjustments are called for?
- Involve team members in the fact finding and brainstorming.

2. Reassess forecasts quarterly.

3. If it doesn't look like you're going to make your annual budget, inform senior management, so they can adjust the overall company budget accordingly.

- You also need to inform senior management if your unit's performance is turning out better than expected. Typically, you'll have regular budget review sessions; still, if you know that things are looking markedly different from how they were budgeted, don't wait for the review session to let senior management know.

4. Save original budget assumptions and estimates—they'll help you improve your forecasting ability for next year.

Tips for analyzing financial statements

- Consider the context—what looks like a big (or small) number may not be once you understand what's typical for a business in that particular industry.
- Compare one company's statements with those of a similar-sized company within the same industry.
- Watch for trends. How have the statements changed since last year? From three years ago?
- Use a company's statements to write a paragraph that describes how much profit it is making, how well it is managing its assets, where the money comes from, where it goes.

Tips for budgeting

Initiative proposal worksheet

<i>Initiative Proposal Worksheet</i>			
<i>Use this form to develop a proposal for an investment or other initiative.</i>			
Initiative Name: <input style="width: 150px;" type="text"/>		Date: <input style="width: 100px;" type="text"/>	
Proposed By: <input style="width: 150px;" type="text"/>		Status: <input style="width: 100px;" type="text"/>	
<i>Description of Initiative</i>			
<i>Rationale for Initiative</i>			
<i>Initiative Economics</i>			
Component	Amount	Description	
One-time investment			
Annual costs			
Annual revenues			
Annual savings			
Return on investment			
Payback period			
Other			
<i>Non-Monetary Costs</i>		<i>Non-Monetary Benefits</i>	
Component		Component	
<i>Risk Factors</i>	<i>How Managed</i>		
Factor			
<i>Initiative Schedule</i>			
Target start date: <input style="width: 100px;" type="text"/>	Target completion date: <input style="width: 100px;" type="text"/>		
Timing rationale: <input style="width: 200px;" type="text"/>			
Key Dates or Milestones	Deliverable	Key Dates or Milestones	Deliverable
Approved: <input style="width: 150px;" type="text"/>	Date: <input style="width: 100px;" type="text"/>		
<i>Initiative Proposal: Addendum</i>			
<i>Use this form to present alternatives considered.</i>			
Initiative Name: <input style="width: 150px;" type="text"/>		Date: <input style="width: 100px;" type="text"/>	
Proposed By: <input style="width: 150px;" type="text"/>		Status: <input style="width: 100px;" type="text"/>	
<i>Alternative 1 Description</i>			
Pros		Cons	
Benefits		Costs	
<i>Summary Analysis</i>			
<i>Alternative 2 Description</i>			

Pros	Cons
Benefits	Costs
Summary Analysis	
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Why Develop Others?

“At the end of the day, you bet on people, not strategies.”

Larry Bossidy

Former CEO, AlliedSignal

In today's global business environment, markets and regulations change quickly. Competitors constantly innovate. Technological changes are the norm.

In order to outmaneuver the competition and meet the demands of the moment, organizations must be agile. They must execute flawlessly. And they must transform themselves continuously.

Are your leaders ready?

Dr. Noel M. Tichy

Professor

University of Michigan Ross School of Business

We have now entered an era where I don't care what industry you're in, you need leaders who can make decisions, make judgment calls at every single level. All the way down to the interface with the customer.

If you go to a company like Google or any of the high tech companies, a lot of the innovation that Amazon does is happening right at the front line. Go ahead, try it, put it out there, we'll learn from it. That cannot happen if the senior leadership doesn't have a commitment to both develop the leadership capability, but develop the business through engaging people at all levels of the organization.

Becoming a teaching organization

I like to tell parents that they cannot delegate their responsibility to develop their children. And I think it is the same in an organization. Day in and day out the person that has the biggest impact on people in the organization is the next level above and the associates around and below. And so to build a learning organization I say is not enough. Learning could be, you know we are learning cooking, we are learning this or that, but teaching organizations, when I learned something, I have a responsibility to teach my colleagues.

So everybody takes responsibility for generating new knowledge and it is not enough to be a learner, you then have to translate it into teaching.

The Virtuous Teaching Cycle

The role of a leader is to ensure that the people who work for them and around them are better every day. There's only one way to make people better. It's to teach them, learn from them, create what I call "virtuous teaching cycles", not command and control.

A virtuous teaching cycle is teach learn, teach learn. And the leader has a responsibility for reducing the hierarchy, for having a point of view to start the discussion, but then to be responsible to hear everyone's voice, get everyone involved in a disciplined way. It is not a free for all. But it is the leader's responsibility to create that virtuous teaching cycle.

A wonderful example of virtuous teaching cycle is the program that Roger Enrico ran at Pepsi, where every one of the 10 vice presidents comes with a business project.

Roger Enrico gets smarter as result of five days with 10 vice presidents, because he's learning from them. He needs to lower the hierarchy. He needs to be open to learning. And in turn, the people participating need to be energized and empowered to come up and engage in problem solving.

Another example is at Best Buy, where every morning in the stores you would bring 20 associates or so together and they would review the profit and loss statement from the day before, what we learned from the different customer segments in our stores, what we can do to improve our performance this day. And they do that every single day. The store manager was learning mostly from the associates on the floor.

That was a virtuous teaching cycle where everybody is teaching everybody, everybody is learning and the result has been an incredible result at Best Buy.

"The growth and development of people is the highest calling of leadership."

- Harvey S. Firestone

Founder, Firestone Tire and Rubber Co

There are clear advantages to leader-led development.

But for many leaders, taking on teaching, coaching, and other development responsibilities can seem daunting. You might avoid taking on these roles due to lack of time, resources, or your own lack of comfort with this role.

The following tips and resources can help you impart valuable learning to your team every day.

To develop others...

- Start with a Teachable Point of View

The first requirement of being able to develop other leaders is to have what I call a teachable point of view. I often give the example of, if I ran a tennis camp and you just came to day one of the tennis camp, I better have a teachable point of view on how I teach tennis. So you are standing there looking at me and it has got four elements. One, the ideas, well how do I teach the backhand, the forehand, the serve, rules of tennis. Then if I am a good tennis coach, I have a set of values. What are the right behaviors I want, how do I want you to dress, how do I want you to behave on the tennis court.

But if that's all I have, what do I do? Show you a power point presentation and then expect you to hit 500 backhands, 500 serves, run around for eight hours. I have to have a teachable point

of view on emotional energy. How do I motivate you to buy in to the ideas and values?

On one end of the spectrum it could be I threaten you with corporal punishment, the other I can give you stock options, I can make you feel good about yourself, I can help you develop as a human being, what motivates you.

And then finally, how do I make the tough judgment calls, the yes/no, decisions as the tennis coach, the ball is in, the ball is out. I don't hire consultants and set up a committee, it is yes/no. And the same with running a business, what are the products, services, distribution channels, customer segments that are going to grow top line growth and profitability of the organization.

What are the values that I want everyone in the organization to have, how do I emotionally energize thousands of people, and then how do I make the yes/no, judgments on people and on business issues. So the fundamental building block of being able to develop other leaders is to have that teachable point of view just like the tennis coach.

To develop others...

- Lead with questions

Questions are hugely important because you want to create dialogue and again, what I call a virtuous teaching cycle where the teacher learns from the students and vice versa. Which means everybody ought to be free to ask whatever is on their mind, whatever it will take to get clarity and understanding, but it is not the leader just coming in and freeform asking questions. I believe the leader has a responsibility for framing the discussion, for having as best they can a teachable point of view, they may need help from their people in flushing it out, but they need to set the stage but then it has to be a very interactive, what I call virtuous teaching cycle environment, teach learn, teach learn, teach learn.

To develop others...

- Make it part of your routine

A good example to me of an outstanding leader developing other leaders is Myrtle Potter who at the time I am commenting was Chief Operating Officer of Genentech running the commercial side of the business. And she would take time at the end of every single meeting and do some coaching of the whole team on how we could perform as a team better, and then she would often take individuals and say, could we spend 10 minutes over a cup of coffee, I want to give you some feedback and coaching on that report that you just presented on or how you are handling a particularly difficult human resource issue, but it was part of her regular routine. And I think the challenge for all of us as leaders is to make that a way of life and it is built into the fabric of how we lead and it is not a one off event, three times a year. It is happening almost every day.

To develop others...

- Make it a priority

One of the biggest challenges in getting people kind of on this path is to overcome some of their own resistance, either fear or the way I view the world I don't have time for this, everybody can make time. Roger Enrico is CEO of Pepsi. He didn't have time to go off for a week at a time and run training sessions. He had to readjust his calendar. So it requires you to look in the mirror and say, is this important. If it is important, of course I can make the time. Then I have to get over my own anxiety on how well I can do it, but it is a commitment to get on the path that says: this is how I am going to drive my own performance and the performance of my colleagues.

To develop others...

- Learn to teach

I think the biggest mistake is to assume you are going to be good at it right off the bat. It is like learning anything else. First time you go out and try and play tennis, good luck. But you got to stay with it and you got to engage your people in helping make you better and them better. And so it is a journey you need to get on, not I am going to do it perfectly when I start out.

If you want to be a great leader who is a great teacher, it's very simple. You have got to dive into the deep end of the pool. But you've got to dive into the pool with preparation. I don't want you drowning. I want you succeeding. It is extraordinarily rewarding for most human beings to teach others. I think once you can turn that switch on, it is self perpetuating. You get a lot of reinforcement, your team is better. You perform better because your performance goes up and it becomes this virtuous teaching cycle.

Your opportunity to develop others

We've heard why developing others can drive greater business results, and how to make the most of your leader-led development efforts. The materials provided in Develop Others enable you to create personalized learning experiences for YOUR team within the flow of their daily activities. Use the guides and projects to engage your team quickly. And to explore how key concepts apply to them in the context of their priorities and goals.

The value of teaching is the performance of the organization is totally dependent on making your people smarter and more aligned every day as the world changes. In the 21st century we are not going to get by with command and control. We are going to have to get by with knowledge creation. The way you create knowledge in an organization is you create these virtuous teaching cycles where you are teaching and learning simultaneously, responding to customer demands and changes, responding to changes in the global environment. My bottom line is if you're not teaching, you're not leading.

A leader's most important role in any organization is making good judgments — well informed, wise decisions about people, strategy and crises that produce the desired outcomes. When a leader shows consistently good judgment, little else matters. When he or she shows poor judgment nothing else matters. In addition to making their own good judgment calls, good leaders develop good judgment among their team members.

Dr. Noel M. Tichy

Professor, University of Michigan Ross School of Business

Dr. Noel M. Tichy is Professor of Management and Organizations, and Director of the Global Business Partnership at the University of Michigan Ross School of Business. The Global Business Partnership links companies and students around the world to develop and engage business leaders to incorporate global citizenship activities, both environmental projects and human capital development, for those at the bottom of the pyramid. Previously, Noel was head of General Electric's Leadership Center at Crotonville, where he led the transformation to action learning at GE. Between 1985 and 1987, he was Manager of Management Education for GE where he directed its worldwide development efforts at

Crotonville. He currently consults widely in both the private and public sectors. He is a senior partner in Action Learning Associates. Noel is author of numerous books and articles, including:

For more information about Noel Tichy, visit <http://www.noeltichy.com>.

Share an Idea

Leaders are in a unique position to recognize the ideas and tools that are most relevant and useful for their teams. If you only have a few minutes, consider sharing an idea or tool from this topic with your team or peers that is relevant and timely to their situation.

For example, consider sending one of the three recommended ideas or tools below to your team with your comments or questions on how the idea or tool can be of value to your organization. By simply sharing the item, you can easily engage others in important conversations and activities relevant to your goals and priorities.

[Initiative proposal worksheet](#)

[Steps for creating a budget](#)

[The relationships among the statements](#)

To share an idea, tip, step, or tool with your comments via e-mail, select the EMAIL link in the upper right corner of the page that contains the idea, tip, step, or tool that you wish to share.

Discussion 1: Creating a budget

As a manager, you may be expected to put together a budget for your department each year—one that represents a key component of your organization's overall strategy for success. Your compensation may even depend on your ability to stick to that budget. So how can you ensure that the budgets that you and your direct reports create are realistic?

Use the resources below to lead a relevant discussion with your team that explores key steps for creating a realistic budget within your organization.

Download resources:

[Discussion Invitation: Creating a Budget](#)

[Discussion Guide: Creating a Budget](#)

[Discussion Slides: Creating a Budget \(optional\)](#)

[Tips for Preparing for and Leading the Discussion](#)

Whether your direct reports are helping you create the group's budget, or they're creating their own, the discussion will help empower them to make sound and defensible budgeting decisions.

Working through the discussion guide can take up to 45 minutes. If you prefer a shorter 15- or 30-minute session, you may want to focus only on those concepts and activities most relevant to your situation.

Discussion 2: Assessing an investment opportunity

How can your team determine if a new investment opportunity makes economic sense? How can they compare multiple alternatives economically over time?

Use the resources below to lead a relevant discussion with your team about how to use a cost/benefit analysis to assess investment options, and how to factor qualitative considerations.

Download resources:

[Discussion Invitation: Assessing an Investment Opportunity](#)

[Discussion Guide: Assessing an Investment Opportunity](#)

[Discussion Slides: Assessing an Investment Opportunity \(optional\)](#)

[Tips for Preparing for and Leading the Discussion](#)

The discussion you have with your team will empower your direct reports to examine investment opportunities, and to weigh both quantitative and qualitative factors.

Working through the discussion guide can take up to 45 minutes. If you prefer a shorter 15- or 30-minute session, you may want to focus only on those concepts and activities most relevant to your situation.

Start a Group Project

Just like any change effort, successfully incorporating new skills and behaviors into one's daily activities and habits takes time and effort. After reviewing or discussing the concepts in this topic, your direct reports will still need your support to fully apply new concepts and skills. They will need to overcome a variety of barriers including a lack of time, lack of confidence, and a fear of making mistakes. They will also need opportunities to hone their skills and break old habits. To help ensure their success, you can provide safe opportunities for individuals and your team as a whole to practice and experiment with new skills and behaviors on the job.

For example, to encourage the adoption of new norms, you can provide your team members with coaching, feedback, and additional time to complete tasks that require the use of new skills. Management approaches such as these will encourage team members to experiment with new skills until they become proficient.

Group learning projects provide another valuable technique for accelerating team members' development of new behaviors. A group learning project is an on-the-job activity aimed at providing team members with direct experience implementing their new knowledge and skills. Through a learning project, team members discover how new concepts work in the context of their situation, while simultaneously having a direct and tangible impact on the organization.

The documents below provide steps, tips, and a template for initiating a group learning project with your team, along with two project recommendations for this topic.

Download resources:

[Tips for Initiating and Supporting a Learning Project](#)

[Learning Project Plan Template](#)

[Learning Project: Draft the Group's Budget](#)

[Learning Project: Develop a Proposal](#)

Is It Fair To Blame Fair Value Accounting for the Financial Crisis?

Robert C. Pozen. "Is It Fair To Blame Fair Value Accounting for the Financial Crisis?" *Harvard Business Review*, November 2009.

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Summary

When the credit markets seized up in 2008, many heaped blame on "mark to market" accounting rules, which require banks to write down their troubled assets to the prices they'd fetch if sold on the open market—at the time, next to nothing. Recording those assets below their "true" value, critics argued, drove financial institutions toward insolvency. Proponents of marking to market, on the other hand, said it exposed executives' bad decisions. If not for this fair value accounting practice, investors would be kept in the dark about the banks' real state of affairs. In this article, Pozen, the chairman of MFS Investment Management, dispels the myths about fair value accounting. For example, it's untrue that most bank assets are marked to market—in 2008 just a third were. Not all write-downs reduce the banks' regulatory capital. Nor is it true that under historical cost accounting, companies don't have to acknowledge changes in market value; they're required to record permanent impairments to assets. After explaining the controversy, Pozen proposes a solution: new, transparent practices that would draw on the best of both historical cost and fair value accounting. If adopted, they could balance the banks' desire to present assets in a good light with investors' need to understand the banks' exposures—and perhaps make everyone happy.

The Finance Function in a Global Corporation

Mihir A. Desai. "The Finance Function in a Global Corporation." *Harvard Business Review*, July 2008.

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Summary

As corporations go global, capital markets open up within them, giving companies a powerful mechanism for arbitrage across national financial markets. But in managing their internal markets to build an advantage, CFOs must balance the opportunities with the challenges of operating in multiple environments. By exploiting their internal capital markets, CFOs can create value in three functions: Financing. A CFO can reduce a group's tax bill by, for example, borrowing in countries with high tax rates and lending to operations in countries with lower rates. But the global CFO needs to be aware of the downsides of strategic financing. Saddling the managers of subsidiaries with debt, for instance, can cloud their profit performance. Risk management. Instead of managing currency exposures through the financial market, global firms can offset natural currency exposures through their worldwide operations. Doing so, however, can obscure the performance of local units, making it harder for headquarters to assess local managers and easier for financial managers to take purely speculative positions. Capital budgeting. CFOs can add value by getting smarter about valuing investment opportunities. But adopting an overly formal approach may tempt managers to game the system and can lead to an outcome at odds with the company's objectives.